



SPRING 2023-2024 ISSUE 2
COGS & CAFFEINE

COGS & CAFFEINE TEAM

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Dear readers,

Welcome to the revamped edition of Cogs and Caffeine!

As the executive team behind this student-led magazine, we are thrilled to unveil a fresh look aimed at showcasing the vibrant world of Engineering at the American University of Beirut. Inspired by the ethos of continuous improvement and innovation championed by MSFEA and AUB, we have implemented changes to the magazine's content structure and delivery methods while remaining true to Cogs and Caffeine's core mission.

These changes include producing multiple physical and shorter issues throughout the academic year, departing from the tradition of a single comprehensive issue at year-end. Additionally, we have expanded our coverage to encompass a broader range of topics to not only include engineering-related articles, but also information on internal MSFEA initiatives, job opportunities, inspiring student stories, and practical advice from experienced students. Whether you are a curious student, a seasoned faculty member, or an involved alumnus, our goal is to ensure there is something for everyone in our articles to enrich the reader's experience and foster a deeper connection with you, our audience.

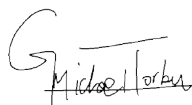
Since its inception, Cogs and Caffeine has aimed to bring MSFEA's countless success stories to light through interesting articles and inspiring stories. With recent changes, we seek to reaffirm Cogs and Caffeine as a valuable resource within the MSFEA community by acting more than just a magazine as a source of information. Our hopes is that Cogs and Caffeine will evolve into becoming a beacon of inspiration to current students reading the incredible success stories of talented MSFEA students, as well as providing opportunities to connect and grow with one another and gain priceless experiences at the faculty.

We would like to extend our heartfelt gratitude to all those that contributed to the revamp and assisted us in the process. We hope you will enjoy reading this magazine half as much as we enjoyed the journey of revamping and writing it.

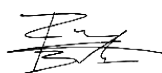
To many more successful issues to come.

Sincerely,
The Cogs and Caffeine Executive Team

Michael Torbey



Roy El Badawi



Alex Boudakian



Joseph Choefati



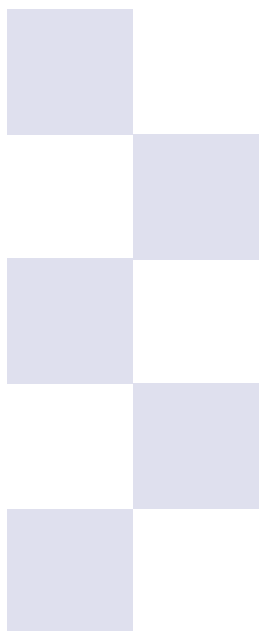
Karen Tannous



EXECUTIVE TEAM'S NOTE

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COMMONLY ASKED STUDENT QUESTIONS

1) HOW CAN STUDENTS GET INVOLVED IN RESEARCH PROJECTS

There are many opportunities for students to get involved in research within MSFEA. A great program in the faculty is the Vertically Integrated Projects Program (VIP). VIP is a “transformative approach to enhancing higher education by engaging undergraduate and graduate students in ambitious, long-term, large-scale, multidisciplinary project teams that are led by faculty”. For more information, contact Professor Joseph Zeaiter (jz08@aub.edu.lb) or Professor Daniel Asmar (da20@aub.edu.lb)

Another research program available to all undergraduates is the Undergraduate Research Volunteer Program (URVP), which provides students with “opportunities to advance their knowledge via experiential learning, and deepen their understanding of research beyond what is normally offered in the curriculum”. Students must meet a set of requirements to be eligible to apply for the program. For more information, visit: <https://urvp.aub.edu.lb/#/pages/home>

2) HOW CAN I REACH OUT TO THE MENTORSHIP PROGRAM AT MSFEA

The Pipeline and Mentorship Initiative MSFEA offers the Peer2Peer Mentorship Program that supports students throughout their academic journey at AUB. The guidance they receive is mainly through more experienced (E3 and E4) students, as well as alumni.

If interested, you can access the PR_MSFEA_Mentorship_SP24-23 course on Moodle.

AMERICAN UNIVERSITY OF BEIRUT
MAROUN SEMAAN FACULTY OF ENGINEERING & ARCHITECTURE

Are you a 1st or 2nd year student at MSFEA?

Would you like to have a peer mentor to guide you throughout your academic journey?

Are you a 3rd or 4th year student at MSFEA?

Would you like to help other AUBites in their academic journey?

Become a Mentor!

PEER2PEER MENTORSHIP

TIPS AND TRICKS

TIP #1: PRINTING ON LOWER CAMPUS

For those of you who urgently need to print notes, assignments, or projects, you can easily access any of the SRB (Scientific Research Building) Labs and print there. Simply sign in to one of the computers and print. In case the printer is out of paper, reach out to the lab manager, who is usually available in his office on the first floor, and he would be happy to assist you in refilling the printer. However, if you need to print your papers in their true colors then SRB is not the place for you because you can only print in grayscale over there!



TIP #2: COFFEE POST-SPILL

Our friends at Spill will always be available to assist you with your caffeine needs, they even extend their opening hours during exam season! Nevertheless, if you choose to work very late on campus and need some coffee throughout the night, then you can meet your coffee needs by accessing the coffee machine on the second-floor terrace at OSB (Suliman S. Olayan School of Business).



MSFEA STANDOUTS

UNDERGRADUATE SPOTLIGHT

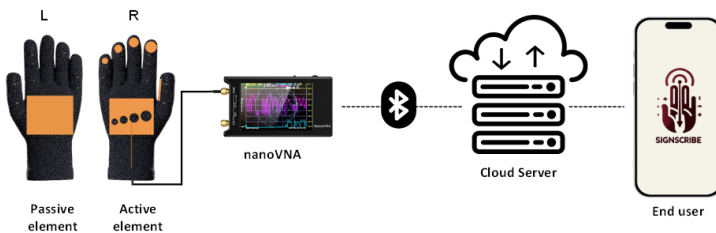
Revolutionizing communications and the interpretation of sign language, the Final Year Project of CCE/ECE undergraduate students Pia Saade, Georgio Abou Jaoude, Jana Salameh, and Rami Mezher, along with Zaynab Attoum (graduate student), under the guidance of Dr. Joseph Costantine and Dr. Youssef Tawk, seeks to transcribe American Sign Language (ASL) into text using a glove with a patch antenna.

A patch antenna is a type of radio antenna with a low profile, which can be mounted on a flat surface. Movements and positions of the hands alter the antenna's reflection coefficient frequency, which is measured to identify ASL signs. The left-hand acts as a reference, enabling detection of hand movements in space. Data from these movements is sent to a cloud server, processed by a machine learning model to recognize ASL words, and display them in real-time on a mobile app. This innovative approach allows for the dynamic translation of ASL into text through wearable technology.



The team has been selected to travel to Italy, as part of the 6 finalists in the AP-S Student Design Contest from over 150 submissions worldwide. The competition will be taking place in July, attract-

ing around 2,000 attendees from over 30 countries. This groundbreaking project represents a giant leap forward in accessibility and communication for the deaf community.



GRADUATE SPOTLIGHT

Meet Malak El Tfayli, a mechanical engineering graduate student at AUB and graduate research assistant working in the field of biomedical engineering. Her current project focuses on replicating the blood-brain barrier, which is a protective mechanism in the brain that shields it from harmful substances in the blood surrounding it.

Malak's project involves constructing a duct that simulates a chamber where fluid flow is controlled in the body. This is done by using 3D-printed structures and electrospun fibers to create the edges and walls of the duct. By seeding both healthy and cancerous cells within this model, researchers can learn more about how a disease would progress or how a drug would act in human tissue.

The next step for Malak is targeting the creation of a complete model that can simulate blood flow using a complementary pump system. This setup would allow for the testing of various conditions and treatments in a controlled environment. This project thus aims to refine the complementary pump system, improve the alignment of fibers in the duct membrane, and explore ways to electrically stimulate the cells in the blood-brain barrier, which would be the closest imitation of the way signals are conducted in our bodies.

The importance of this project lies in its potential to revolutionize drug testing by creating a viable alternative to animal testing. The use of this in vitro model provides researchers with a more accurate representation of human tissues for pharmaceutical research, as well as industrial and biomedical purposes. This project stands to make a substantial impact in the field of biomedical engineering by providing a more accurate and ethical alternative to animal testing and by enhancing our ability to study and treat diseases that affect the brain and other organ systems.

ALUMNI SPOTLIGHT

Meet Abdel Wahab, a 2016 graduate in Electrical and Computer Engineering, whose academic and professional journey has been as dynamic as it has been impactful. During his time at AUB, Abdel Wahab distinguished himself as an exceptionally active student, excelling in academics, leadership, and character. His significant contributions to campus life earned him the prestigious Penrose Award, an honor bestowed annually on just one student per faculty for their outstanding achievements in academics, leadership, and campus life.

Abdel Wahab's path took a pivotal turn when he passed by a presentation on the Oxford 1+1 program right here at our university in West Hall. This unique program combines a master's degree with an MBA, and intrigued, Abdel Wahab applied and was awarded a scholarship to pursue his further studies at Oxford.

During his 13-month stint at Oxford, Abdel engaged deeply with computer science, completing his coursework in 9 months and opting to replace the traditional thesis with a more hands-on internship. He joined a startup focused on developing a platform for Private Equity investors to manage and report on portfolio companies. The startup's main goal was to streamline the collection and management of ESG data to facilitate more sustainable investment practices.

Recognizing a shift in the market's needs, Abdel Wahab co-founded a company within the same ecosystem but pivoted its focus towards analytics



targeting market investors. He played a crucial role as a co-founder for three years, steering the company through various phases of growth before leaving and eventually selling his stake in the business.

His entrepreneurial spirit continued to flourish as he turned his attention to social impact investments. Leveraging his network of wealthy Lebanese individuals, he initiated projects to support small to medium-sized businesses struggling due to the Lebanese banking crisis. His efforts soon expanded to include farmers, a shift inspired by his participation and subsequent victory in a hackathon organized by Lebanese students at MIT, which

underscored the vital role of agriculture in Lebanon's economy, and opened a door to a new pathway for him.

Today, Abdel Wahab leads FarmLend as their CEO, a B2B marketplace designed to connect farmers worldwide with retailers. This venture not only supports agriculture by providing a platform for fresh produce but also includes comprehensive logistics, helping farmers and retailers manage their operations more effectively. With a team of 15, FarmLend stands as a testament to Abdel Wahab's



commitment to innovation and his relentless pursuit of creating platforms that bridge gaps in traditional markets and foster sustainable growth on a global scale.

INTERNSHIP & JOB OPENINGS

ARCHITECTURE:

- Salem Group – Consulting
- Hawa-Moujaes Architects SAL/HM DESIGN FZ LLC – Architecture and Design
- EBCO (BITAR) – Construction, Contracting, and Engineering

CIVIL AND ENVIRONMENTAL ENGINEERING:

- INNOVO Roads, Infrastructure & Marine Works – Roads, Infrastructure, and Marine Contractor
- Synergy Consulting Engineers - Project Management, Contract Administration, Civil Engineering Consultancy
- World Bank - Transport

ELECTRICAL AND COMPUTER ENGINEERING:

- Khatib and Alami – Engineering Consultant
- Kamal Sioufi & Associates – MEP Consultant Engineers
- Arina Energy SAL – Renewable Energy/EPC

GRAPHIC DESIGN:

- Born Interactive S.A.L – Integrated Communication Agency
- Hospitality Services – Events and Publishing
- Roadie Music - Product Management: Music Industry

CHEMICAL ENGINEERING:

- Veolia Water Technologies – Water Technologies
- Ittihad International Investment - Investment/Manufacturing/Healthcare
- Difaf - Environment, Water, Agriculture, Waste to Energy

COMPUTER AND COMMUNICATION ENGINEERING:

- Accuracy – Consulting and Forensic technology
- Invigo Off-Shore SAL –Telecommunications
- Global Gate Capital – Financial Institutions

INDUSTRIAL ENGINEERING:

- Ittihad International Investment – Investment/Manufacturing/Healthcare
- BiOxy – Medical Device Development
- UTRIX SAL – Manufacturer of Feed Additives

MECHANICAL ENGINEERING:

- Jubaili Bros – Power Solutions
- Wissam Tawil & Associates SAL – Electromechanical Design and Supervision
- Green Essence Lebanon - Solar Energy, Solar Water Heating, Solar Water Pumping



Scan this QR code
for more

MSFEA CAREER RELATED INITIATIVES

WHAT IS CAREER+ ?

MSFEA's Career+ program is designed to help students explore all the career paths they have the chance to embark on and guide them to the one of their choice.

It is a framework of existing opportunities and experiences at MSFEA that will help students develop knowledge on and expertise in the field(s) they are interested in. The program also provides tailored and dynamic learning filled with active participation and interactive engagement.

WHAT ARE THE PATHS THAT CAREER+ OFFERS HELP IN?

1. Research
2. Design innovation
3. Entrepreneurship
4. Consulting
5. Community engagement
6. Sustainability and environment
7. Data science and AI
8. Robotics

WHAT ARE THE REQUIREMENTS FOR A CAREER+ CERTIFICATION?

- Academic requirements
(Coursework or minor)
- Applied experience
(internship or equivalent, for example Co-op program)
- Extracurricular activities
(active participation in related clubs, workshops, events, competitions...)
- Career readiness
(completion of CDC modules on career planning and preparation)



FREQUENTLY-ASKED QUESTIONS

1. When should I start my career path?

It is advisable to start early on but generally, students can start at any time as long as they complete the requirements and receive certification before graduation.

2. Can I receive certification in more than one path?

Yes, as long as the requirements are satisfied for more than one Career+

3. Can I pursue these requirements without getting certified?

Yes, this program can be used as a guiding tool and framework to build experience without asking to be certified in it. It is one of many opportunities available at MSFEA that students are encouraged to benefit from, whether Career+ or not.

4. Should I complete all the requirements to get a Career+ certification?

Yes, by attending all the selected activities or events (in this case, requirements need to be completed for students to achieve certification. However, students do have the option of not going the full route and only they would not get certified).

TRANSFORMING ENGINEERING EDUCATION WITH DR. HARB

BY CHELSEY SAYDI

TOPIC: WORD FROM FACULTY

«It's not all about grades; it's about learning and having fun», with these words, Dr. Mohamad Harb, a Mechanical Engineering professor at the Maroun Semaan Faculty of Engineering and Architecture (MSFEA), sets the tone for a transformative approach to engineering education. In a world often focused on metrics and outcomes, Dr. Harb takes an approach that goes beyond conventional boundaries. Admittedly, entering an engineering classroom in 2024, the scene often echoes that of decades prior: a professor lecturing, students passively absorbing information, some doing homework and others daydreaming. However, Dr. Harb paints a different picture, one characterized by dynamic collaboration, impact-oriented projects, and a fundamental shift in focus from marks to a hands-on learning experience.

IN HIS CLASSES, THIS PHILOSOPHY TAKES TANGIBLE FORM. RATHER THAN PASSIVE LECTURES, STUDENTS ARE ENCOURAGED TO WORK TOGETHER ON PROJECTS, ENGAGE IN PRODUCTIVE DISCUSSIONS AND EVEN COMPLETE THEIR ASSIGNMENTS IN CLASS.

This hands-on, collaborative style is something he is spreading throughout the faculty with initiatives such as the AUB Makerspace and the most recently established, Engineering Learning Lab.

The AUB Makerspace, also known as The Red Room, is a creative hub that provides students and faculty with access to cutting-edge technology, including 3D printers, laser cutters, and virtual reality equipment. It is run entirely by students and they are referred to as the Jedis (Junior Engineers, Designers, Innovators). Their role is straightforward and that is to help you bring your creative ideas to life. During the summer, this spirit of making and creating will take over the 3D and 4D rooms of Bechtel Design Hall turning them into a giant space for students to explore and innovate. The tables and chairs will be removed to make room for more 3D printers, VR sets, high powered PCs, and even sewing machines and wood workshops. This all ties back to Harb's vision of revolutionizing the way engineering is taught. By providing students with the tools and opportunities to work with their hands and apply theory into practice, he is cultivating a generation of innovative thinkers and problem-solvers.



All of Dr. Harb's aspirations are a product of years of studying and working in the most esteemed institutions, including NASA. When asked how he reached such heights, he modestly replied: "It was one of those instances where everything fell into place". While pursuing his Ph.D. in Aerospace Engineering at the North Carolina State University in the U.S, his advisor who was also working at NASA, encouraged him to apply. Being mindful of this advice, Dr. Harb seized the opportunity, and it paid off in dividends. His courageous leap inspires us to take chances and to not shy away from opportunities that come our way. It also pushes us to connect with our professors and advisors because their knowledge, expertise, and often their connections can help us get to places we never thought were possible. Dr. Harb has never fallen short of providing guidance to his students, breaking the traditional barrier that is often present between instructors and their students.



more ocean-friendly. Engineering programs have yet to push students to incorporate their interests in their learning journey, and this is an idea that Dr. Harb strongly addresses in his teaching philosophy.

HOWEVER, FOR DR. HARB, SUCCESS ISN'T JUST ABOUT CAREER ACHIEVEMENTS. WHETHER EXPLORING THE STREETS OF HAMRA, ENJOYING THE VIEW OF THE SEA, OR BETTER YET, SCUBA DIVING IN ITS DEPTHS, HE HAS BEEN FINDING JOY IN THE SMALLER THINGS.

While he may be recognized primarily for his academic and professional pursuits, Dr. Harb is also an avid scuba diver. His love for the sea goes beyond mere enjoyment, he's also actively involved in its preservation. A recent project of his involved finding ways to recycle fishing nets. Made of PA6 Nylon, they can take up to 300 years to dissolve in salty water. Hence, he found a way to properly recycle these nets and turn them into water filters and 3D printing resources. Dr. Harb is always finding ways to apply his knowledge and expertise on real-life projects that make a difference in his community. Echoing this approach, Dr. Harb is currently supervising a Final-Year Project on optimizing sailboats for sustainability. They are specifically working on East-Mediterranean style boats, commonly known as 'Shakhtura', to create a template for fishermen with guidelines and cost-effective solutions to make their boats

Above all, and perhaps the most profound insight Dr. Harb shares with his students, is the importance of finding their true purpose and pursuing it in a way that creates a positive impact however big. "In everything you do, think, how can I benefit the people around me?" He believes that this spirit of purpose-driven service distinguishes engineering students, shaping them into leaders rather than basic technicians. Reflecting back on his journey, Dr. Harb reveals that he would not have left NASA and the United States if he didn't have a North Star to follow, a vision to fulfill, and a community

to serve emphasizing even further the need for ambition in everything we do.

Dr. Harb clearly envisions a bright future for MSFEA, one that puts it at the forefront of the most prestigious engineering faculties in the world due to its rapidly evolving educational approach. He entices us to soak up all aspects and enjoy every bit of our years in it, embracing both their challenges and pleasures. So let that be a testament, a reminder that our time at AUB should be a rich plot filled with experiences, learning, and memories that stick with us long after graduation.

AI IN ARCHITECTURE: SHAPING THE FUTURE OF DESIGN

BY TAMARA ARAKJI

TOPIC: RESEARCH AND INNOVATION

Large language models (LLMs) and artificial intelligence (AI) have been driving significant changes in the architectural scene in recent years. These technologies have become extremely useful instruments that are transforming the way architects design, plan, develop, and construct buildings. Architects are bringing in a new era of unmatched creativity, efficiency, and sustainability in architectural design by utilizing AI and LLMs.

Traditionally, architects have been relying on their expertise and intuition in order to complete projects and execute their vision. While this is a way that their styles stand apart from one another, AI algorithms can now generate and optimize designs with unprecedented speed and accuracy. AI and LLMs are now offering design optimization strategies in which architects are able to alter their designs in a way which enhances and betters them. AI-driven design optimization algorithms leverage computational power to explore vast design spaces, considering factors such as building function, site conditions, environmental impact, and client preferences. By being able to analyze these conditions beforehand, architects are able to make more informed decisions and boost the level of the architecture industry time and design wise. With the evolving demands in the engineering world, in terms of sustainability and environmental factors, the architecture field is also encouraged to stay within these boundaries. Sustainable building practices have become a priority for architects seeking to minimize environmental impact and resource consumption. While engineers are widely familiar with material sciences and their building impact, AI algorithms are capable of analyzing environmental data, including solar radiation and

climatic patterns, to optimize building orientation, layout, and material selection for improved environmental performance and energy efficiency. Having such a tool is crucial for time and process optimization. As for safety hazards, AI is also able to assess sketches and identify risks, increasing human efficiency and allowing work to get done in a faster manner.

AI AND LLMS ARE ALSO ABLE TO ANALYZE THE BUILDING SITE. FOR EXAMPLE, ZAHA HADID'S AIRPORT IN BEIJING USED AI LANGUAGES IN ORDER TO ANALYZE VARIOUS FACTORS SUCH AS PASSENGER FLOW, AIRCRAFT MOVEMENT, AND ENERGY EFFICIENCY IN ORDER TO EXECUTE AN OPTIMIZED AND BEAUTIFUL DESIGN.

Having such a tool at the team's disposal aids them in developing unique and functional structures. By offering information on variables like topography, exposure to sunshine, and local laws, it improves design choices and maximizes site use. AI-powered technologies may also simulate and forecast how design decisions will affect different characteristics, allowing architects to develop more functional and sustainable spaces. All things considered, AI expedites the site investigation procedure, saving time and money while enabling

well-informed design ideas.

Not only can AI aid architects in efficiency, but it can also give them a hand in mapping design ideas. AI is able to automatically generate floor plans and CAD models by capturing images of existing physical spaces. AI algorithms, particularly those based on deep learning and computer vision techniques, can analyze satellite or aerial imagery to automatically detect and extract building footprints. Instead of architects spending hours on doing so, they are able to get inspired by AI tools and continue to develop their design on their own. AI and LLMs are also able to analyze existing scenes, where it takes in building heights, urban morphology, and transportation networks in order to help the architects make informed decisions. Although AI is available for everyone with a Wi-Fi connection, using it jobs means learning how to utilize it ethically. This year at AUB, the vertical architectural studio course is teaching architecture students design, and how AI is integrated with it. After talking with Professor Bernard Mallat, it became clear how architects are able to use AI in order to innovate their work. It is a 6 credit course, as it is a design course. As he mentions, "The course is not about AI, we use it to assist us.". Research done by architecture students can be done through Chat GPT for example, as if done on google or any search engine. The discussion nature AI has helps the students get exactly what they are looking for. There is image to image AI, text to image AI, and many other types that students are taught to use in order to test their ideas visually. As mentioned before, AI is also capable of enhancing the student's designs. However, the tools used in the course are not as advanced as said before, they are not exactly capable of telling the students what they are doing wrong.

AI tools are also used to extract images students might use. For example, generating different images of what the students want, changing their own images to have sunny or gloomy weather, and all in all alter their designs as they wish to see them. It mostly generates designs students might not have thought of, widening their realm of thought. As Professor Mallat says, it is back and forth iterations with an AI tool aiming to reach what they desire. Video is also generated through AI, where students upload pictures of their project on the chat, and the video is generated by the tool they are using. This helps prepare them for presentations and seeing the full picture of their project. Professor Mallat also discusses how architecture has changed through time, so there are certain

styles used by architects throughout time which they abide by. He gave the example of modernism, how there is postmodernism, trans modernism, and so on. Sometimes students are required to shift their designs to see what they would look like in other time slots in life, so if they were to build the same building but back in the 1930's, AI can generate how it would look. This enhances students' creativity as this can help them develop their designs further. This is a form of research, so that they understand what type of design they are going for and are then required to make their own.

While saying all this, does AI affect architects' creativity? Professor Mallat explains that the same as any major, there is a methodology the students are required to go through while using AI tools. They think of it as a research tool, and that is how they are taught to use it. It is unethical to let AI do one's work, as there are limitations to how original it can be. As a time-saver, instead of reading a book, they let Chat GPT summarize it so that they take the most important ideas from it. This makes their work faster, as they spend less time researching and more time designing. Professor Mallat states that this allows them to produce work more advanced than that of thesis students in 5 weeks rather than a year. Despite the extent of aid AI provides in architecture, there are still limitations to it.

PROFESSOR MALLAT SAYS THAT AI CAN GENERATE AN IMAGE, OR A FEW IMAGES WHICH CAN HELP INSPIRE THE DESIGNERS, BUT THERE IS STILL A LOT OF ON HAND WORK THAT SHOULD BE DONE BY HUMANS SUCH AS DRAWING, SKETCHING, BLUEPRINTS AND SO ON.

Such details need a further extent of advancement in technology to be done by AI. So, will AI replace architects in the future? It will help them, innovate their work, and make it happen faster. This might affect job positions as less people will be needed to work on one project. Professor Mallat states that later on, it will not be human versus AI, the race will be between the architects which know how to use it, versus the ones that do not. Here, efficiency is key, and talent will be shown through understanding and adapting to technological attachments.



GRAPHIC DESIGN

NABAT ORGANIC - 4TH YEAR GRAPHIC DESIGN PROJECT BY NAHEDA ITANI

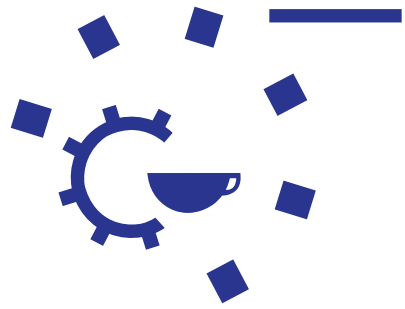
Nabat Organics, a haven for wholesome and organic food, embarked on a transformative journey with a repackaging project that aimed to redefine its visual identity on the shelf. The evolution shifted from illustrative to a more impactful photographic approach, coupled with a strategic emphasis on clear typography to ensure a compelling shelf presence.

In the redesign of Nabat Organics packaging, this project emphasizes a deliberate departure from illustrative imagery. Embracing a photographic approach allows the essence of each product to take center stage. This project aims to make each image a visual celebration of the organic goodness within, capturing the freshness, vibrancy, and authenticity that defines Nabat Organics.



A portrait of a middle-aged man with dark hair, wearing a dark suit, white shirt, and a blue patterned tie. He is standing in front of a dark wood-paneled wall, with his right hand resting on a red surface.

RIDDLE TIME!



WHICH NUMBER IS MISSING?

(LEVEL: HARD)

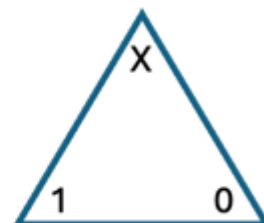
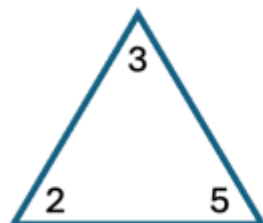
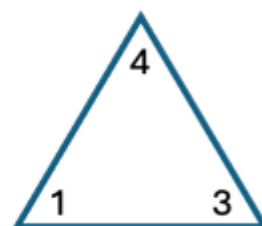
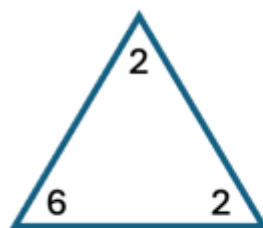
8 10 14 18 X 34 50 66

- a) 20
- b) 26
- c) 28
- d) 30

0 2 6 12 20 30 X

- a) 42
- b) 44
- c) 46
- d) 48

2	8	7	6
9	5	9	5
9	7	4	X



- a) 5
- b) 7
- c) 9
- d) 11

- a) 1
- b) 2
- c) 3
- d) 4

WORD SEARCH

(LEVEL: MEDIUM)

Find the 17 words in the puzzle



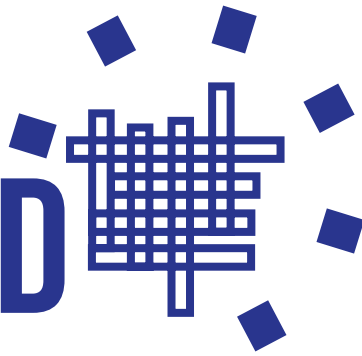
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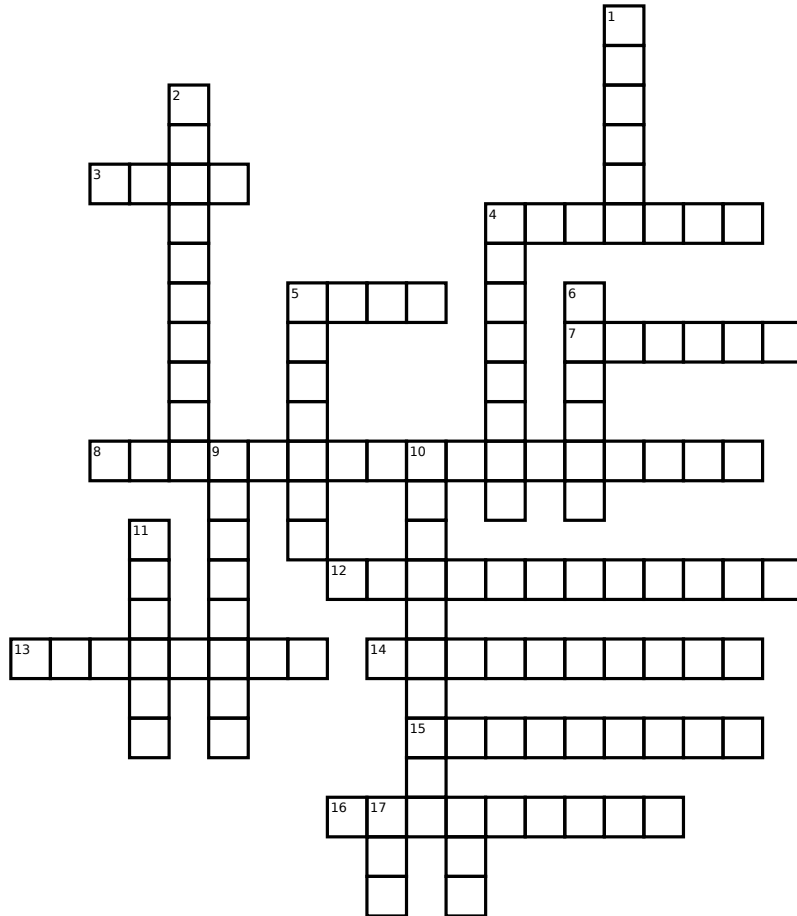
L	A	X	C	U	R	R	I	C	U	L	U	M	K	L	Q	A	A
Z	R	A	J	C	M	A	T	L	A	B	J	A	U	S	W	U	U
Y	C	O	P	A	U	T	O	C	A	D	F	R	G	Y	Y	T	D
M	H	R	M	R	E	W	B	Z	C	N	L	O	W	L	C	O	I
A	I	O	S	D	W	E	L	L	H	Q	K	U	Z	L	A	M	T
S	T	I	N	T	E	R	N	S	H	I	P	N	K	A	L	O	O
R	E	P	R	O	J	E	C	T	W	J	A	S	M	B	C	T	R
I	C	G	P	T	C	P	A	J	G	A	N	E	A	U	U	I	I
Y	T	M	P	A	W	E	S	R	M	V	N	M	L	S	L	V	U
Q	U	D	T	P	Y	T	H	O	N	A	E	A	H	I	U	E	M
D	R	Q	R	U	X	U	H	N	L	S	X	A	Z	F	S	L	R
C	E	G	N	M	X	K	Q	G	S	V	W	N	Y	W	D	A	U

**ATTENTION: THE FIRST 12 PEOPLE TO COMPLETE ALL THREE
GAMES AND MESSAGE US THEIR CORRECT ANSWERS VIA
INSTAGRAM WILL WIN FREE COFFEES FROM SPILL BY CAFE NAJJAR**

CROSSWORD



(LEVEL: MEDIUM)



The following set of expressions are clues to fill the words above.
Words can go across or down | Letters are shared when the words intersect.

DOWN

1. Pathway to professional success
2. Introduction of something new/
improved
4. Study to discover new
knowledge
5. Half-way assessment
6. Higher academic degree
9. The place you go to for advise
10. AUB detailed plan
11. Business courses exam room
17. Petroleum company related to
MSFEA

ACROSS

3. Given when studies completed
4. Room that has 3D printers
5. First math encounter at AUB
7. Former students of a school
8. Timetable for end-of-term
assessments
12. Process of making something more
effective
13. What you study for an exam
14. Completion of studies
15. Document detailing lab experiments
16. Recognition for outstanding

spill



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