

The Faculty of Computer and Information Science

*Israel's first urban computer science faculty
bridging science and society for a more responsible, connected future*



NOVEMBER 2025

Building a Shared Future

Northern Israel is entering a critical moment of renewal after two years of displacement, economic strain, and social upheaval caused by the war. As rising antisemitism and anti-Israel sentiment spread across campuses abroad, the need for strong academic leadership at home has never been more urgent.

With deep roots in the North and a mission tied to its future, the University of Haifa is poised to lead the region's recovery. The Faculty of Computer and Information Science will be central to this effort, advancing opportunity and cultivating the diverse talent that will shape the North's future.



| THE FACULTY OF COMPUTER AND INFORMATION SCIENCE

Breakthroughs in technology rarely happen in isolation. They emerge where ideas intersect and innovation is guided by responsibility. Founded this fall, the Faculty of Computer and Information Science embodies this approach, advancing computing while keeping ethics, impact, and societal needs at the forefront.

The Faculty brings together two of the University's strongest units: Computer Science and Information Systems. Together they will drive innovations in artificial intelligence, biometrics, national security, data-driven STEM research, and environmental sustainability.

Interdisciplinarity is a defining strength. The Faculty offers joint tracks such as "Ethics and AI" with Philosophy; partners with Psychology and Physiotherapy on machine-learning studies of human behavior; and works with the Faculty of Natural Sciences on algorithmic biology that explores how collective behaviors in nature shape complex ecosystems. The Tech4Animals Lab collaborates with veterinarians, NGOs, and industry to develop AI tools that improve animal welfare and veterinary practice.

Looking ahead, the Faculty is strengthening partnerships with local companies and start-ups and expanding into fields that will shape the next decade. Priority areas include:

- » **Blue Technology:** AI and autonomous marine robotics for ocean exploration, maritime security, underwater sensing, and environmental monitoring.
- » **Digital Design:** a collaboration with the School of Design that merges computation, natural systems, and creative practice.
- » **Computing for Health:** AI-assisted diagnostics, clinical decision-making, and personalized medicine in partnership with the School of Medicine and the Department of Nursing.
- » **Game Development:** training for Israel's rapidly growing digital media sector.

The Faculty is located in the Herta and Paul Amir Technology Complex on the University's Lorry I. Lokey City Campus in Haifa's revitalized port district. Steps from the Innovation District and Rambam Health Care Campus, and easily accessible by rail and cable car, it stands at the heart of a dynamic ecosystem where academic, industry, healthcare, and creative partnerships drive real-world innovation.

WHAT MAKES US UNIQUE?

Blue Tech: Pioneering a New National Discipline

Building on the University of Haifa's leadership in marine science and long-standing collaborations with the Israeli Navy and environmental agencies, the Faculty of Computer and Information Science is launching Israel's first B.Sc. in Blue Tech. This pioneering track enables computer science students to study Marine Science alongside AI, data science, and robotics, preparing them to address urgent national challenges such as coastal sustainability and maritime security. Faculty researchers also play a role in decoding whale communication as part of *Project CETI*—a global collaboration with Harvard, MIT, UC Berkeley, Imperial College, and others—with profound implications for both marine conservation and interspecies communication.

Biometrics: Securing the Digital Future

Chosen by the Israeli National Cyber Directorate to lead academic research in biometrics, the University is at the forefront of one of today's most critical security fields. Our teams develop next-generation protections that detect synthetic data, expose system vulnerabilities, and safeguard biometric information that, unlike passwords, cannot be changed if compromised. Working closely with legal scholars and policymakers, the Center helps shape technologies that protect individual privacy and support democratic values.

Etgar Program: Investing in Israel's Youth

Etgar ("challenge" in Hebrew) enables exceptional high school students to earn a B.Sc. in Computer Science by age 19. Unlike similar programs elsewhere, Etgar students learn in dedicated cohorts and benefit from ongoing mentoring. Today, the program includes about 150 students, with women representing 28%, a meaningful statistic in a male-dominated discipline. Many graduates go on to elite IDF intelligence units, entering academia and industry with both advanced technical training and meaningful national service.





Curriculum and Student Body

The Faculty of Computer and Information Science offers a comprehensive academic pathway that spans undergraduate tracks in Computer Science, Data Science, and Information Systems (including a new Ethics and AI specialization) through to advanced master's and doctoral programs.

In recent years, the Faculty has served over 1,400 students, representing one of the most diverse STEM communities in the country:

- » Over 60% of undergraduates and 35% of master's students come from lower socio-economic backgrounds.
- » 40% of all undergraduate and master's students are women.
- » More than half of undergraduates are Arab students from across northern Israel.
- » Exceptional high school students in the elite *Etgar* program, who complete most of their computer science degree before finishing high school.

Many STEM students face demanding academic schedules and long daily commutes, making it challenging to take on community-engagement programs that require 70–140 volunteer hours per year. As a result, participation currently stands at about 5%. Even so, the Faculty is committed to expanding flexible, accessible opportunities for students to contribute to community life in meaningful ways.

Career Development and Pathways to Employment

The Faculty of Computer and Information Science maintains strong ties to Israel's labour market, ensuring students are prepared for meaningful careers in the tech sector. The City Campus career development program currently includes job fairs, industry "spotlight days," hands-on training in high-demand AI and tech skills, résumé workshops, and access to professional career counseling. A new initiative, *TechBridge*, is also being developed to support Arab students in entering the high-tech workforce—strengthening pathways from classroom to career and expanding opportunity across northern Israel.

ALUMNI WHO LEAD

| Founding Dean

Professor Margarita (Rita) Osadchy is a University of Haifa alumna with a distinguished record in both industry and academia. Her work in biometric security, privacy protection, machine learning, and computer vision has earned international recognition, advancing technologies from secure facial-recognition systems to machine-learning tools now used in medicine, environmental science, and national security.



Following postdoctoral research at NEC Laboratories in Princeton and at the Technion, Prof. Osadchy returned to the University of Haifa in 2005, and rose through the ranks to become Head of the Department of Computer Science in 2023. She also serves on the scientific steering committee of Israel's Center for Cyber, Law and Policy – established at the University of Haifa in 2017 in partnership with the Israel National Cyber Directorate.



| Technology Innovator and Entrepreneur

Shachar Fienblit, Co-Founder & Chief R&D Officer, VAST Data

Fienblit, a graduate of the University of Haifa's first Computer Science cohort (2000), has become one of the most influential innovators in advanced computing and AI infrastructure. After formative years at IBM (2000-2008), and senior leadership roles in Kaminario (2009-2016), where he served as VP of Engineering and later Chief Technology Officer, he co-founded VAST Data.

VAST Data has developed a revolutionary unified data platform that leverages a unique all-flash architecture to store and deliver petabytes of data at unprecedented speed and efficiency, which is critical for fueling large-scale AI and deep learning models. Today, VAST Data is one of the world's fastest growing AI infrastructure companies, recently valued at \$30 billion, with anticipated investment from both Google and Nvidia.

As Chief R&D Officer, Fienblit was instrumental in pioneering VAST's breakthrough data platform, which now supports mission-critical work for NASA, the U.S. Air Force, Disney, and leading AI labs.

| Faculty Member

Dr. Alaa Maalouf focuses on making artificial intelligence faster and more efficient, a passion he discovered during his PhD at the University of Haifa. His research on accelerating machine-learning models earned international recognition and led him to MIT's Computer Science & Artificial Intelligence Laboratory. At MIT, he developed algorithms that dramatically shrink neural networks while preserving accuracy, improving everything from mobile image search to robotics.

Alaa chose to return to the University of Haifa as faculty, where he continues advancing computational efficiency and mentoring the next generation of AI researchers in northern Israel.





| ABOUT THE UNIVERSITY OF HAIFA

Where Research and Innovation Meet Society

From its scenic Mount Carmel campus to its vibrant city-center locations, the University of Haifa is the largest research institution in northern Israel and home to over 18,000 students from diverse ethnic, religious, and socio-economic backgrounds. Guided by academic excellence and a strong commitment to social responsibility, the University expands access to higher education. With 47% of students the first in their families to attend university, it is a powerful engine of opportunity for the entire region.

In the wake of two difficult years marked by war, the University of Haifa remains a beacon of resilience and inclusion. It is a place where Jews, Arabs, Druze, Haredi and secular students, new immigrants, and military personnel learn and collaborate — forging partnerships that will define Israel's future.

As Israel elevates STEM fields to a national priority, the University of Haifa is advancing this mission through strategic investments in the new Faculty of Computer and Information Science and the Herta and Paul Amir School of Medicine. These efforts are creating a dynamic ecosystem at the intersection of technology, health, and society, driving breakthroughs that strengthen communities and build long-term resilience across the region.

FOR YOUR CONSIDERATION

The University of Haifa invites you to partner with us in naming the **Faculty of Computer and Information Science**.

» A visionary gift of \$10 million will name the **Faculty of Computer and Information Science** in your honor, advancing a shared commitment to opportunity and innovation in northern Israel.



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