Hamzeh Abu Qamar

Jeddah, Saudi Arabia | US Citizen | Portfolio
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EDUCATION

King Abdullah University for Science & Technology (KAUST), *Jeddah, KSA*   **2025**
M.Sc. in Technology, Innovation, and Entrepreneurship, GPA: 3.92/4.0

United Arab Emirates University (UAEU), *Al Ain, UAE*   **2024**
B.Sc. in Electrical Engineering, GPA: 3.99/4.0

International School of Choeuifat (SABIS), *Al Ain, UAE*   **2020**
High School Diploma, Average: 97%

ACADEMIC EXPERIENCE

Founder & CEO, Airgo, KAUST, *Jeddah, KSA*   **Jan 2025 – Present**

- Developed air quality monitoring MVP under Prof. Khaled Salama – now looking to add more features & commercialize the technology.

Summer Intern, KAUST, *Jeddah, KSA*   **May 2023 – Sept. 2023**

- Worked under Prof. Tareq Al Naffouri at the Information Science Lab (ISL)
- Investigated innovative cuff-less methods to continuously monitor blood pressure
- Tweaked ML model parameters on public datasets: WGAN, DCT, UNet

Research Assistant, UAEU   **Oct. 2021 – May 2024**

- Awarded from IEEE Undergraduate Research Scholarship to pursue graduation project
- Analyzed link between ground stations and CubeSats for LEO constellations
- Created NetSat SpaceSim: link budget analysis calculator – uploaded to Github
- Conducted experiments around an artificial blood vessel to investigate the behavior of blood velocity & pressure in the presence of a clot (journal paper pending)
- Engineered a self-charging system for EVs using electromagnetic coils and solar panels

ENTREPRENEURSHIP & LEADERSHIP

Youth 4 Sustainability, Masdar, *Abu Dhabi, UAE*   **Jan. 2024 – Jan. 2025**

- Promoted sustainability & renewable energy solutions through seminars at COP28
- Discussed sustainability initiatives & incorporation into education with Boris Johnson (former PM, UK), HE Dr Sultan Al Jaber (CEO, ADNOC), HE Bora Muzhaqi (Youth Minister, Albania) at GSDC 2023, WEEC & WFES 2024

Sheikh MBZ Scholarship, New York University, *Abu Dhabi, UAE*   **Sept. 2022 – Apr. 2023**

- Interviewed H.E. Dr. Sultan Al Jaber – ADNOC CEO & COP28 President
- Refined public speaking, critical thinking, leadership skills
- Traveled to Istanbul to learn about their culture and meet VCs & entrepreneurs

Founder & CEO, Velocity Academy   **Sept. 2020 – Feb. 2023**
- Operated Instagram online business with 3000 followers, tutored in math, physics, chem
- Facilitated 20 high school students' admissions into US undergraduate programs
- Collaborated with universities to conduct workshops on innovation & entrepreneurship
- Arranged for students to participate in GSDC, MARSS, IEEE ICM, COP28, 6G Summit

HACKATHONS & COMPETITIONS

International Business Plan Competition, UIUC, *Austin, Texas, USA*   **Jan. 2025**
- Founded startup "TagAlong" – system that uses powerbanks to charge EV semi trucks while on the move
- Performed a detailed revenue model, cost structure, feasibility study

TecShift Hackathon, Aramco & Lab7, *Dhahran, KSA*   **Oct. 2024**
- Created detailed solution to KSA's overreliance on fossil fuels & lack of carbon credit system – value prop., market, customer discovery, revenue model, feasibility study
- Envisioned blockchain platform for carbon credit trading & uses data from transactions to influence govt. policy using AI

Student Engineering Gathering, Sultan Qaboos University, *Muscat, Oman*   **Apr. 2024**
- Week-long poster presentation: displayed grad. project to 100+ students & faculty
- Engaged in immersive discussions regarding the future of CubeSats & satellite comm.

Pioneers 4.0 Hackathon, Lipton Teas & Infusions, *Abu Dhabi, UAE*   **Mar. 2024**
- 3-day hackathon: understood logistics & challenges Lipton faces in terms of optimization
- Developed model to optimize real-world factory challenge: silos, lines, warehouse

Hack4Climate, UAE Space Agency, *Expo City Dubai, UAE*   **Dec. 2023**
- 4-day hackathon: understood different levels & bands of sat. imagery
- Plotted NO_2 conc. & emissions for Dubai: Copernicus Sentinel-5P Level-2 imagery

University Challenge, PwC, *Dubai, UAE*   **Dec. 2023**
- Underwent climate fresk challenge – arranging pictures according to specific theme
- Learnt about value & contribution of consulting in sustainability

Innovation Camp, Lafarge, *Dubai, UAE*   **Dec. 2023**
- Developed solutions for construction and demolition waste (CDW) recycling: plant that produces metals, plastics, & raw material for sustainable future in construction

AI in Finance Hackathon, Dept. of Finance, *Dubai, UAE*   **Nov. 2023**
- Developed platform that provides & collects data on microfinancing solutions for locals
- Envisioned AI algorithm for budget allocation – secured 1st place & 10,000 AED fund

Youth Sustainability Hackathon, General Electric, *Dubai, UAE*   **May 2023**
- Collaborated with teammates on strategy: solve energy transition challenges in accordance with UAE's Zero Net Emissions by 2050 – secured 3rd place
- Devised energy mix plan – added 60GW renewable power to UAE's grid

Athlete, GCC Universities Competition, *Doha, Qatar*   **Feb 2023**

- Represented UAE in 100m Sprint – secured 5th place
- 1st place in Abu Dhabi Football Competition 2022-24
- Acted as liaison between coaching staff and the 25 members of soccer team

PUBLICATIONS

1. M. A. Ahmad, **H. A. Qamar**, K. Mohammed, S. Meetani, and R. Alketbi, "*Blood Flow Detection Using Piezoelectric Sensors,*" IEEE Sensors Journal (Impact Factor: 4.325), doi: 10.1109/JSEN.2024.3517166

2. K. Mohammed, **H. A. Qamar**, R. A. Khalil and N. Saeed, "*Regional CubeSat Communication and Constellation Design Evaluation*," 2023 International Conference on Microelectronics (ICM), Abu Dhabi, United Arab Emirates, 2023, pp. 284-287, doi: 10.1109/ICM60448.2023.10378915.

3. **H. A. Qamar**, K. Mohammed, S. Meetani, R. Alketbi, M. Umar and M. A. Ahmad, "Clot Monitoring Through Electromechanical Analysis," 2023 IEEE 11th International Conference on Systems and Control (ICSC), Sousse, Tunisia, 2023, pp. 953-958, doi: 10.1109/ICSC58660.2023.10449743.

4. **H. A. Qamar**, K. Mohammed, R. A. Khalil and N. Saeed, "SatNet SpaceSim: A Platform for Performance Analysis of Small Satellites Mega-Constellations," 2024 Joint European Conference on Networks and Communications & 6G Summit (EuCNC/6G Summit), Antwerp, Belgium, 2024, pp. 646-651, doi: 10.1109/EuCNC/6GSummit60053.2024.10597066.

SKILLS

- Python, MATLAB, C++, SystemVerilog (FPGA)
- AI, ML Programming
- Raspberry Pi, Arduino, ESP, RISC-V
- Microsoft Office – Excel, Word, PowerPoint
- Public speaking, critical thinking, leadership, project management
- English, Arabic, Chinese (basic)

CERTIFICATES & LICENSES

- Cisco CCNA: Introduction to Networks
- Google Project Management: Professional Certificate