Amir Darwich

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EDUCATION

American University of Beirut (AUB)   *Aug 2023 – Aug 2028*
Bachelor of Engineering (BE) in Electrical and Computer Engineering, Minor in Mathematics
GPA: 4.26/4.3 (99/100)
Dean's Honor List: All Semesters

PROJECTS

Vertically Integrated Project (VIP) – GRAND/ORBGRAND and SerDes Research   *2024 – Present*
- Working on research under the VIP program on **decoding and high-speed SerDes systems**.
- Studied and simulated various **ORBGRAND decoding variants** with multi-iteration soft-input soft-output (SISO) methods and constant complexity.
- Currently integrating **SerDes architectures** with iterative GRAND decoders to evaluate end-to-end achievable rates and signal reliability.

GRAND Decoder Development (Verilog, Research Project)   *2024 – 2025*
- Developed a fully pipelined **GRAND decoder** capable of detecting multiple codewords in parallel.
- Implemented memory management, threshold-based termination, and pipeline synchronization for hardware-level testing.
- Evaluated clock-cycle performance and hardware speedup through testbench simulations.

RF and Microwave Engineering (Coursework)   *Fall 2025 – Ongoing*
- Analyzing and designing RF circuits using Smith charts, impedance matching, and S-parameters.
- Conducting circuit and antenna simulations in **ADS 2024–2025** and validating microstrip filter performance.

Control Systems (Coursework & Project)   *Fall 2025 – Ongoing*
- Modeling and analyzing feedback systems for stability, response, and robustness.
- Designing and implementing a **1D robotic arm control system** using MATLAB/Simulink.

EXTRACURRICULARS

ESS (Engineering Student Society)   *Fall 2025 – Present*
- Active participation in society initiatives and student networking events.

AUB Robotics Club   *Fall 2024 – Present*
- Active member participating in robotics projects and club activities.

AUB IEEE Student Branch   *Fall 2024 – Present*
- Active member engaged in technical workshops and IEEE events.

Women in Engineering (WIE), AUB   *Fall 2024 – Present*
- Certified hands-on participation in technical and leadership workshops.

VOLUNTEERING

IEEE Control Student Society (CSS)   *In Progress*
- Volunteer participation in workshops and technical support activities.

CERTIFICATES

- **Track Your Future: Robotics Session – Edutek** — 2025
- **Amazon Industry Program 4.0 Bootcamp** — May 2025
- **Arduino Workshop, AUB Robotics Club** — Apr 2025

SOFT SKILLS

Exceptional public speaking and presentation abilities (**Graduation Keynote Speaker**). Strong teamwork, leadership, and cross-disciplinary communication. Proactive, adaptable, and passionate about innovation and collaboration.

SKILLS

Programming & Tools: Python, C++, MATLAB/Simulink, Verilog, LabVIEW, Arduino IDE, Cadence, LaTeX.
Engineering Areas: Wireless Communication, RF Circuits, Control Systems, Decoding & Detection.
Languages: Arabic (native), English (fluent), French (fluent)