Nader Jemel

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Education

Massachusetts Institute of Technology Cambridge, MA

B.S./M.Eng in Computer Science and Engineering *Sep. 2019 – Expected Feb 2025*

- **Relevant coursework:** Probability and Random Variables, Linear Algebra, Design and Analysis of Algorithms, Introduction to Machine Learning, Elements of Software Construction, Software Performance Engineering, Computer Systems Engineering, Computation Structures, Digital Systems Laboratory, Signal Processing, Signals, Systems and Inference, Discrete Math and Proof for CS, Fundamentals of Programming, Principles of Microeconomics, The Challenge of World Poverty

Experience

Undergraduate Researcher Jun 2022 – Aug 2022

Tsai Laboratory at MIT *Cambridge, MA*

- Analyzed EEG data from participating patients using Matlab to study Theta and Gamma frequency couplings
- Contributed to an eye and head estimation model to measure patients' interactions with the therapy from videos

Undergraduate Researcher Jun 2021 – Aug 2021

MIT Energy Initiative *Cambridge, MA*

- Performed Technoeconomic Analysis of Options for Decarbonizing Freight Transportation
- Analyzed and read multiple reports by energy agencies and companies
- Studied the cost-competitiveness of different clean fuels for freight transportation

Activities and Leadership Experience

6.004: Computation Structures - Lab Assistant Sep 2022 – Dec 2022

- Solved the class' labs and helped students during office hours

Gordon-MIT Engineering Leadership Program Sep 2021 – Dec 2021

- Participated in selective leader development program focused on being an effective member or leader of industry engineering teams
- Actively practiced leadership, teamwork, and communication skills in an engineering context; complementing MIT's technical coursework

Co-President of Delta Psi MIT Chapter Sep 2021 – Jan 2022

- Collaborated with Interfraternity Council to discuss and brainstorm issues that fraternities are facing
- Responsible for budgeting food and dealing with contractors for the members and the house

Projects

FPGA-Daw: A Digital Audio Workstation for FPGAs Oct 2022 – Dec 2022

- Built a system that stores and plays audio loops. It has the ability to add audio effects and mix them together
- Designed a system that fetches and stores the audio data in external SD cards with zero latency after the first load
- Built a VGA User Interface controlled by a keyboard using PS/2

Honors and Awards

- International Olympiad in Informatics (IOI) 2018 Bronze Medalist

Skills

Languages and Frameworks: Python, C/C++, HTML/CSS, Django, Bootstrap, SystemVerilog
Developer Tools: Git, Docker, AWS, Visual Studio, PyCharm, IntelliJ, CLion, Sublime Text
Libraries: pandas, NumPy, Matplotlib, OpenCV
Languages: Arabic (Native), English (Fluent), French (Intermediate)