Ahmad Taka

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EDUCATION

Massachusetts Institute of Technology (MIT)

Candidate for a Bachelor of Science in Electrical Engineering and Computer Science

- **Relevant courses:** Introductory Digital Systems Laboratory, Special Subject in Digital Design, Embedded Systems, Computer Systems Engineering, Software Construction
- **GPA**: 4.6
- **Awards:** Arthur J. Samberg '62 Scholarship, Bausch+Lomb Honorary Science Award, Rensselaer Medalist

EXPERIENCE

MIT Computer Science and AI Laboratory Feb. 2021 – Present

Human-Computer Interaction Researcher

- Co-authored paper on unique detection methods for 3D printed objects (https://groups.csail.mit.edu/hcie/files/research-projects/infraredtags/2022-CHI-InfraredTags-paper.pdf)
- Created software for embedding 3D tags in STL
- Evaluated techniques and implemented web-based applications
- Designed hardware for lab group and other projects

Chainbridge Solutions June 2019 - Aug. 2021

Software Engineer

- Implemented FFT and BoofCV image processing frameworks in order to efficiently develop an Image Processing PDF Reader
- Pulled data from a centralized data store and produced a user friendly Data Visualization dashboard using JavaScript for a better customer experience
- Spearheaded the initiative to incorporate Robotic Process Automation to speed up the development process of cross platform automations

MIT Physics Department Aug 2021 - Dec. 2021

Grader for Advanced Classical Mechanics

- Graded several assignments and helped students with complaints and other class related issues

RELEVANT PROJECTS

Automated 3D Printer

- Built a 3D printer and interfaced it with OctoPrint for automated printing. Accomplished under traditional prices, delivering exceptional quality

Galina: 3D FPGA LED Display Driver

- Used cheap digital circuitry to drive individual LEDs. Created a scalable design, while retaining high speed control.

GameMan: Full FPGA implementation of Original Gameboy (DMG)

- Worked on a team of three to build a hardware implementation of the Original Gameboy. Implemented complex display logic, and Z80 CPU

Nikolai

- A customizable 3D printed gauntlet with an embedded display, which allows a user to attract metal objects.

COMMUNITY INVOLVEMENT

Student Government, Athletics Chair, MIT Aug. 2019 - Aug 2021

- Managed discretionary fund for the gym
- Interacted with members of the dorm community; formed social spaces for like-minded gym enthusiast

Social Events Chair, MIT Aug. 2021 - Present

- Regularly hosted and managed social events. Managed team of seven with limited budget

SKILLS

Programming Languages	Web Design & Development	Electronic & Mechanical Design	Development Ecosystems	Prototyping	Languages
- C/C++ - Python - Java - SystemVerilog - 8080 Assembly - SQL	- HTML - CSS, JavaScript - Flask - NodeJS - JQuery - D3	- MATLAB - SolidWorks - Fusion 360 - SPICE - Rhino - Grasshopper - KiCad	- Visual Studio - Vivado - Eclipse - Oracle SQL - PyCharm, IntelliJ	- Arduino - Atom	- English - Arabic - German (elementary)