Andi Qu

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EDUCATION

Massachusetts Institute of Technology   Cambridge, MA
B.S. in Electrical Engineering & Computer Science (EECS)   Expected, 2025
GPA: 5.0/5.0

EXPERIENCE

MIT Research Laboratory in Electronics   Cambridge, MA
Undergraduate Research Assistant   09/2022 – Present
- Work with the Spintronics Device and Material Group to synthesize, characterize, and test novel antiferromagnetic materials.
- Did electrical testing on spintronic devices.

Scale AI   San Francisco, CA
Software Engineering Intern   06/2022 – 08/2022
- Worked with the GIS team to create tools for custom maps from LIDAR data and satellite imagery.
- Used WebGL to create a real-time 3D editor that supports five different models of camera distortion.

USAF-MIT AI Accelerator   Cambridge, MA
Undergraduate Research Assistant   12/2021 – 05/2022
- Used the Unity game engine to create games that simulate real-life flight tasks and conditions.
- Trained autonomous flight agents using reinforcement learning to help assist human pilots.
- Experimented with a new curiosity module in RLLib to promote intrinsic exploration.

MIT Computer Science and Artificial Intelligence Laboratory   Cambridge, MA
Undergraduate Research Assistant   09/2021 – 01/2022
- Designed an experimental hardware compiler with the Z3 theorem prover.
- Implemented an algorithm to support circuit paths that span arbitrarily many segments and layers.

Business Science Corporation   Johannesburg, ZA
Junior Developer   01/2021 – 08/2021
- Created an Excel add-in for tracking project revenue and allocations using Office.js and Azure functions.
- Helped build automation tools for two large corporations using Angular and ASP.NET.
- Created data visualizations for a logistics company using Plotly to optimize fuel spend.

LEADERSHIP & ACTIVITIES

- MIT Admissions – *Student Blogger*
- MIT Chemistry – *Teaching Assistant*
- USA Computing Olympiad – *Problem Setter*
- South-African Programming Olympiad – *Problem Setter*
- USACO Guide – *Core Team Member*
- MIT Wind Ensemble – *Clarinetist*
- MIT Lecture Series Committee – *Film Projectionist*

SKILLS

Human Languages: English, Chinese – Mandarin (bilingual), Afrikaans (business proficiency), German (conversational)

Programming Languages (& frameworks): C++, Python, Django, Flask, Pandas, Plotly, JavaScript/TypeScript, React, Angular, Three.js, WebGL, C#/.NET, Entity Framework Core, Azure Functions, Unity Game Engine, HTML/CSS, SQL, Git, AWS Lambda, AWS Step Functions, Lisp, Z3 Theorem Prover

ACHIEVEMENTS

- International Olympiad in Informatics (IOI) – *2020 and 2021 bronze medals*
- International Mathematics Olympiad (IMO) – *2020 bronze medal, 2019 honorable mention*
- Pan-African Mathematics Olympiad – *2019 silver medal*
- South-African Programming Olympiad – *2019 and 2020 winner, 2018 bronze medal*
- South-African Mathematics Olympiad – *2017 and 2020 winner, 2016 and 2019 runner-up*
- Google – *Code-In 2018 grand prize winner*