

Michael Sheng

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EDUCATION

Georgia Institute of Technology

Atlanta, GA

Bachelor of Science in Computer Science; GPA: 4.0/4.0

Expected Graduation: Dec 2026

Coursework: Data Structures & Algorithms, Computer Architecture, Differential Equations, Multivariable Calculus, UI Design

EXPERIENCE

Software Engineering Intern

Jun 2025 – Aug 2025

Carbon, Inc.

Redwood City, CA

- Designed and implemented efficient full-stack system on innovative new 3D print post-processing machine, reducing unit computational requirements and contributing to cutting production costs by **70%** compared to a previous model
- Developed state machines with **Google Protocol Buffers** to provide safe and accurate user workflow compliant with IEC/ISO safety standards
- Handled interfacing with machine microcontrollers using **gRPC**, enabling high-performance state, command, and data streaming

Research Assistant

Jan 2025 – Present

Rahnev Computational Perception Lab, Georgia Tech

Atlanta, GA

- Led an independent project in collaboration with Herrick Fung studying **computational bases of human visual perception**, low-level sensory uncertainty, and processes of estimating decision confidence
- Constructed and analyzed performance of variable-depth **convolutional neural networks (CNNs)** to replicate human visual processing
- Used **Bayesian statistical models** to distill differences between artificial and human responses to visual stimuli (e.g. Gabor patches) and differing mechanisms of sensory confidence reporting

Software Developer, Technology Team

Nov 2024 – Present

Hexlabs, Inc.

Atlanta, GA

- Developed live event organization system AppGT for Georgia Tech's flagship HackGT hackathon, deploying software capable of handling **2,500+ participants**
- Created animated frontends for HackGT 2025's event site and HackGT Archive using React

PROJECTS

Graphling | *OpenGL, GLSL, ThreeJS*

Jul 2025 – Present

- Created a **first-person, perspective-enabled 3D graphing calculator** using ThreeJS and WebAssembly
- Implemented chunked **level-of-detail** system to substantially increase render capacity, enabling drawing graphs to distances reaching $\pm 30,000$ x/z
- Implemented multiple methods of graph geometry construction, including marching cubes, dynamically updated GLSL shaders, and zero-copy vertex sharing with a WebAssembly calculation engine

Pixelterm | *Python, NumPy, Graphics*

Jan 2024 – Jun 2024

- Created blazingly fast ASCII **graphics rendering framework** in Python for rendering images, videos, and graphical games in the command line
- Achieved over **200% rendering optimizations** by implementing **frame buffers with NumPy vectorization**
- Published package on PyPI with streamlined outward facing API and comprehensive documentation, reaching over **1,300 installs**

TECHNICAL SKILLS

Languages: Python, Rust, C++, C, Java, Protobuf, Typescript, Javascript, HTML/CSS

Frameworks: ReactJS, NumPy, PyTorch, Node.js, Three.js, PostgreSQL, Stripe, OpenGL & GLSL, Tauri, Electron, Tensorflow.js, Express, Tailwind CSS, Chakra UI

Technologies: Microsoft Azure, SQL Server, REST APIs, JWT, Git, WSL, Docker, Full-Stack Development, Deep Reinforcement Learning, UI/UX Design

Awards: MIT Battlecode 2025 Finalist, 5x AIME Qualifier