Michael Sheng

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Education

Georgia Institute of Technology — Aug 2024 – *Jun 2027 (Anticipated)*
Current, B.S., Computer Science — Atlanta, GA
Relevant Coursework: Data Structures & Algorithms, Discrete Math — GPA: ~ / 4.00

Central Washington University — Sep 2023 – Jun 2024
Dual Enrollment — Sammamish, WA
Relevant Coursework: Multivariable Calculus 1 & 2, Linear Algebra — GPA: 4.00 / 4.00

Experience & Projects

Student Researcher
Los Alamos National Laboratory
Remote • Jun 2023 – Oct 2023

¤ Collaborated with Li Tang at Los Alamos on vectorization of tensor-related operations in the Polybench benchmark suite and other algorithms using PyTorch and NumPy

¤ Improved efficiency by up to 10-20x for BFS traversal on 300k+ edge graphs, FDTD calculations, and Cholesky decompositions compared to traditional implementations. Created customizable test and benchmarking suites for all algorithms

JSTI West 2023
ORISE & Defense Threat Reduction Agency
Albuquerque, NM • Jun 2023

¤ Developed tracer advection modeling framework with student research group and mentor from Los Alamos National Laboratory

¤ Applied framework to build open-source proof-of-concept weather forecast tool

¤ Improved collaborative skills and project management in a research setting

Full-Stack Developer
Floracosm
Project • Jul 2023 – Present

¤ Created full-stack climate research crowdfunding website using React, Express, Microsoft SQL Server, Microsoft Azure, and Stripe

¤ Implemented custom JWT authentication system, email verification, REST API, and efficient data structures on server-side for handling web traffic and incoming user data

¤ Learned fundamentals of system design, responsive design, and production software

Framework Developer & Maintainer
Pixelterm
Project • Feb 2024 – Present

¤ Created and currently maintaining Python graphics rendering library for ANSI-based terminals

¤ Gained experience packaging projects, writing documentation, and developing maintainable code

¤ Implemented NumPy backend to maintain a manipulable and vectorized buffer of pixels, improving rendering efficiency by over 300%

Languages

Proficient: Python • Typescript/Javascript • Java • HTML

Technical Skills

Proficient: React • Git • Express.js • NumPy
Intermediate: PyTorch • Microsoft Azure • SQL Server • Stripe • Electron • Tensorflow.js

Interests

Web/Frontend Engineering • Deep Reinforcement Learning • Computer Vision • Graphic/UI/UX Design