

Tong Miao

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EDUCATION

University of California, Davis

Graduation June, 2025

Bachelor of Science, Computer Science

Davis, CA

- **GPA: 3.97/4.0**
- **CS Coursework:** Graduate Artificial Intelligence, Programming Languages, Algorithm Design & Analysis, Theory of Computation, Databases, Computer Architecture, Computer Graphics.
- **Upper Math Coursework:** Topology, Modern Algebra, Real Analysis, Probability, Number Theory.

SKILLS

- **Coding Languages:**
 - **Proficient:** Python, JavaScript, Typescript, Go
 - **Experience In:** Rust, Java, C/C++. C#, R, Lua, Matlab, x86 Asm, Shell Script, Solidity, Dart, Kotlin.
- **Interests:** Swimming, Chess club, AI society, 3D Design, Anime, Reddit, The X Files.
- **Tech:** React, Next JS, Material UI, Tailwind CSS, HTML5, Websockets, WebRTC, MongoDB, PostgreSQL, Mysql, Figma, Nginx, Apache, Tensorflow, Pytorch, Radare2, Unity, Debian, Gentoo, Node JS, Socket JS, Tokio.rs, Pandas, Numpy, Twisted (event driven networking), Wireshark, GDB, PWA, Prisma JS, electron, SQL, XML, REST API, Linux, Webpack, NPM.

PROJECTS

Spiking Mamba Neural Network [[Paper](#)]

- Combine Spiking Neural Networks (SNNs) with the Mamba and Transformer architectures.
- Adapted the Mamba S6 state selection model to use Leaky Integrate then Fire Spiking Neurons.
- Pandas for Data Loading, Pytorch for Model Definition, Tested on CIFAR-10 dataset with 80% F1 score.

Toom 3 Communication System (TCS) [[Gitlab](#)]

- Interactive Group Messaging system, supplemented by a multi user video chat application.
- Built around the participation in individual collectives and channels, similar to Discord and Zoom.
- Messaging, File Uploads, Voice & Video Calls.
- Frontend as a PWA in react allowing installability on all platforms with resizable UI.
- Backend in Express and Nginx, Hosted TURN server for WebRTC.

EXPERIENCE

Social Interactions and Technologies Club at Virginia Tech

2022 - 2023

Founder and President

- Used R, Tensorflow, NLP and sentiment analysis techniques to research biases in social media.
- Conducted education for members on technologies and relevant linear algebra, probability concepts.
- Directed the organization of guest speakers and club activities.

Resource To Health (Startup)

2021 - 2022

Project Lead and Technical Lead

- Led a team that designed self-help applications for assisting caregivers with their mental and physical health.
- Developed application front end using React, backend with Rust, DB using MongoDB.
- Coordinated multiple design, development teams, and advisors, enabling the creation of a full stack application.
- Used Figma and Storyboard to coordinate with peers and design the UI of applications.

Fintech Club at Virginia Tech

2021 - 2023

Technical Advisor

Other Projects: [ML Translation Tools](#), [Recreation of Classic Internet Explorer](#), [Rust based Language Interpreter](#), [Electron Desktop Wallet for Resilient DB](#), [QR URL Shortener](#), [Computer Remote Access Program](#).