

Shrestha Mishra

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EDUCATION

The University of Texas at Austin, Austin, TX

August 2025 - May 2029

Bachelor of Science, Computer Science

GPA: 4.0/4.0

Relevant Coursework: Introduction to Programming, Data Structures and Algorithms, Discrete Math

TECHNICAL SKILLS

Programming Languages: Python, JavaScript, React.js, HTML, CSS, Java, C++, SQL (Postgres)

Frameworks & Libraries: TensorFlow, PyTorch, Node.js, Tailwind CSS, Pandas, NumPy, Matplotlib, REST API

Developer Tools: Git, Docker, Vercel, Streamlit, Supabase, Stripe, Google Cloud Platform, Cursor

EXPERIENCE

Foot and Ankle Research Innovation Lab at Harvard Medical School

May 2024 - Present

Machine Learning Researcher, Lab Member

Boston, MA

- Implemented machine learning algorithms for anatomical landmark detection on **3000+** foot and ankle radiographs, leveraging convolutional neural networks (CNNs) and mechanisms to improve detection accuracy
- Built and optimized end-to-end training pipelines in Python using PyTorch, integrating data preprocessing, augmentation, and model evaluation to achieve a **94%** Successful Detection Rate (SDR)
- Collaborated with **5+** surgeons and data scientists to translate algorithmic outputs into actionable surgical insights, improving model interpretability with Grad-CAM visualizations and reducing review time by **30%**

Pocket AI Colubri Lab at UMass Chan Medical School

August 2024 - April 2025

Machine Learning Researcher, Lab Member

Worcester, MA

- Engineered a machine learning-powered diagnostic feature that increased accessibility of healthcare screening tools for underserved communities
- Deployed pilot application projected to benefit **500+** patients, with early adoption validating feasibility for larger rollouts
- Integrated SHAP-based model interpretability, improving clinician understanding and raising trust scores by **35%**

AI Edge Lab at John A. Paulson School of Engineering and Applied Sciences

May 2024 - July 2024

Prompt Engineer

Boston, MA

- Collaborated with research team at the Harvard Edge Computer Lab to develop an LLM for text prompt-based chip architecture design
- Assessed & labeled **550+** data points, creating standardized data labeling protocols later applied to **1,000+** additional entries
- Leveraged Python NLP libraries to optimize prompt parsing and tokenization, reducing average token count per prompt and lowering API usage costs

PROJECTS

Converso (SaaS Machine Learning Companion) | *Next.js, Tailwind CSS, Supabase, Stripe, Vercel*

June 2025

- Developed real-time voice-driven lessons via VAPI, enabling **100+** daily interactive sessions in beta
- Added course customization, Google/Email auth, and Stripe payments for **50+** active paying users in 1 month
- Deployed on Vercel with PostgreSQL database and integrated Sentry for real-time error tracking

YOLO Automated Landmark Detection | *Python, Streamlit, YOLO, GU2Net, Deep Learning*

January 2025

- Built YOLO-based GU2Net app for automated calcaneus landmark detection
- Achieved **2 ± 2.05** MRE at 5mm with **94%** SDR using hybrid global/local CNN features
- Deployed model on Streamlit web platform, enabling an interactive clinical interface for **100+** users

BiteSwipe | *Next.js, Tailwind CSS, Supabase, Yelp API*

August 2025

- Built a swipe-based restaurant discovery platform in Next.js, utilizing Yelp API data from **5,000+** local eateries
- Implemented authentication and storage with Supabase with a **100%** data retention rate across user sessions
- Optimized caching and query logic to support **>10k** swipe requests/min without performance loss