Shrirang Patil

Corvallis, OR, USA | 5412868727 | imshrirangpatil@gmail.com | LinkedIn | GitHub | Portfolio

SKILLS

AI/ML: PyTorch, TensorFlow, Hugging Face Transformers, NLP, LLM Fine-Tuning, Automatic Speech Recognition (ASR), scikit-learn
Programming: Python, SQL, C++, JavaScript, Bash, MATLAB
Full-Stack: React, Next.js, Flask, Node.js, REST APIs, WebSockets, MongoDB, PostgreSQL
Cloud / DevOps: AWS (EC2, S3), Google Cloud, Docker, CI/CD, Git
Design: Figma, UX/UI Principles, Responsive Design
Product / Collaboration: Experimental Design, Technical Mentorship, Agile Development, Cross-Functional Collaboration

---

EXPERIENCE

Graduate Research Assistant (AI Engineer) - Oregon State University — Dec 2023 - Dec 2025

- Built Clipboard, a conversational workflow assistant for protocol adherence and setup automation to streamline robot experiment setup and tracking embodied AI studies.
- Engineered and Dockerized a Flask-based Speaker-Listener service using WebSockets + Whisper for real-time transcription; reduced end-to-end latency from 1.0s to 0.7s (30%). Achieved 94% intent recognition accuracy with real-time feedback.
- Developed Speech2Action: voice-guided underwater manipulation mapping speech commands to 28 semantic methods; achieved 85% task success rate vs. 70% baseline.
- Led a 3-person effort to collect multimodal demonstrations from 30 participants (trajectories + verbal strategies) and produced a WordAction dataset accepted at ICSR 2025.
- Mentored an undergraduate on a Python-based markup language + parser to generate synchronized TTS + gesture animations, accelerating prototype deployments by 50%.
- Secured $25K OSU Transdisciplinary Research Grant to support building and deploying conversational / voice tooling.

Graduate Teaching Assistant (Algorithms, Usability Engineering) - Oregon State University — Sep 2025 - Dec 2025

- Led discussions / labs and office hours for 80 students across CS325 (Analysis of Algorithms) and CS352 (Intro to Usability Engineering).
- Graded assignments and exams using the course rubric, delivering timely, consistent feedback to support student improvement. Strengthened cross-functional communication by translating complex technical ideas into practical examples.

Undergraduate Researcher (NLP / ASR)- National University of Singapore — Dec 2022 - May 2023

- Engineered a multilingual ASR system using CNN-RNN (BiGRU) with MFCC features, achieving 92% accuracy across 125 syllable classes spanning 27 languages.
- Built an audio feature extraction pipeline over 10,000+ files and improved robustness vs. traditional methods in collaboration with a 4-person team.

Robotics Hardware / Software Developer Intern - Bolt IoT Inventrom Private Limited, Bengaluru — Feb 2022 - Mar 2022

- Built a Google Assistant API voice-controlled robot, achieving 90% navigation success in obstacle-rich environments.

PROJECTS

- **Real-time Speaker-Listener Communication System | Whisper, WebSockets** GitHub Code
  - Architected a Flask / WebSockets service for streaming transcription and intent-driven workflow; dockerized for deployment. Reduced latency by 30% and achieved 94% intent recognition accuracy in real-time interactions.
- **Humanoid Robot Animation Framework | Python Markup, Parser** GitHub Code
  - Developed a Python-based markup language and parser converting annotated scripts into synchronized TTS + gesture animations. Reduced script-to-action execution time by 40% and accelerated prototype iteration.
- **EmotionSport Neural Athletic Performance Analysis | Deep Learning** GitHub Code
  - Built a facial emotion recognition pipeline using CNN + BiLSTM models, achieving 90.67% accuracy on CK+485 dataset. Quantified emotional metrics (frequency, intensity, duration) to support performance feedback analysis.
- **Multilingual ASR System for Cultural Communication | Speech Recognition** Project Report
  - Built a speech recognition / classification pipeline processing 10,000+ audio files across 27 languages and 125 classes. Achieved 92% classification accuracy with CNN+RNN modeling and scalable preprocessing.

EDUCATION

Master of Science in Artificial Intelligence|GPA: 3.76 — Sep 2023 - Dec 2025
Oregon State University, USA

Bachelor of Technology in Computer Science and Engineering (AI/ML Specialization)|GPA: 3.60 — Jul 2019 - Jun 2023
Vellore Institute of Technology, India