Esha Jugade

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EDUCATION

- **Purdue University** — West Lafayette, Indiana
  Master of Science - Computer Science — *August 2024 - May 2026*
- **MKSSS's Cummins College of Engineering for Women** — Pune, India
  Bachelor of Technology - Computer Engineering; GPA: 9.42 — *July 2019 - July 2023*
  - Rank: **4th** out of **250**

EXPERIENCE

- **Cognitive Robot Autonomy and Learning Lab** — Purdue University, West Lafayette
  Applied Graduate Researcher — *October '24 - Present*
  - Working on **human-aware object manipulation and retrieval planner** for **non-monotone object rearrangement** and retrieval in **narrow confined environments**.
  - Optimizing **robotic arm** for **human preferred target pose** based neural motion planning.

- **Goldman Sachs** — Bengaluru, IN
  Software Engineering Analyst — *July '23 - June '24*
  - Developed technology solutions for optimizing performance of **Liquidity Engineering's money-market trading portal** within the Asset and Wealth Management Division of the firm.
  - Engineered a **robust automation framework** for the sanitized, **scheduled deployments of micro-services** for accelerating time-to-market, **saving manual effort by 2 days per sprint (3 weeks)**.
  - Developed a **smart-locking mechanism for enabling the Auto-Failover of Singleton jobs** running on **distributed host systems** to ensure **BCP readiness**. Published solution as a reusable library.
  - Built an **automated runtime code coverage tool** to get real-time statistics on code coverage, **reducing developer effort by 5 hours per sprint**. Complemented it with **historical code coverage analysis** to augment code coverage.
  - Worked on **scalability of micro-services** to accommodate an **increased capacity estimate of 10x**.

- **Goldman Sachs** — Bengaluru, IN
  Summer Intern — *June '22 - July '22*
  - Designed and developed an **end-to-end automation tool to streamline white-labelling of portal UI** offered to client-banks that **spawned on-the-go customized portal UIs** according to business needs.
  - Eliminated human dependency by one layer, **saving 4 business days per client.**

PROJECTS

- **Informal Screening of Autism Spectrum Disorder**
  Tools: Tensorflow, Numpy, Gradio
  - Devised an abridged, one-stop **ASD screening tool** for at-home diagnosis from recorded videos. Enhanced diagnostic **accuracy up to 94 percent** by implementing a **novel**, modified variant of the **SPEA2 algorithm** in tandem with stacked neural networks for identifying the most pertinent predictive markers. **Reduced time taken** for ASD screening by **20 percent**.

- **EEG-based motor imagery classification**
  Tools: Tensorflow, OpenCV, Sklearn, SciPy, mne
  - Uses **Deep Belief Networks** on pre-processed **EEG signal data** derived from subjects performing motor imagery tasks corresponding to fist movements. Enables **mental imagery classification** based on features learned for assistive device optimization.

- **Audio SOS**
  Tools: Tensorflow, Label Studio, Sklearn, SciPy
  - Performs **threat severity classification** of **emergency calls** into 4 levels for enabling prompt aid dispatch by identifying distress levels. Uses B**ert-based classifiers** on **transcribed audio** for contextual modeling coupled with **Sentiment Analysis** on audio spectrograms for a more nuanced classification.

PUBLICATIONS

- Jugade, Esha. "Deep Learning Enabled Smart Wearables: A Review." Academia.Edu, Grenze International Journal of Engineering and Technology GIJET, 1 Jan. 2023. Link

SKILLS SUMMARY

- **Languages**: Python, Bash Scripting, Java, JavaScript, C, C++, PL/SQL, Prolog, HTML, CSS, R
- **Frameworks and Library**: React, Redux, Springboot, FTL, Docker, Kubernetes, Azure, Pandas, SciPy, Numpy, Tableau, Tensorflow, OpenCV, Keras, Android Studio, GIT, GitLab, Prometheus, Grafana, KeepAlive, Linux, Jacoco, Kafka, Postman
- **DBs and Tools**: MySQL, GraphQL, MongoDB, Git, Confluence, Jira, IsaacSim