Naveen Prashanna Gurumurthy

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Education

Master of Science, University of Texas at Dallas (UTD) | Dallas, TX **Aug 2023 - May 2025**
Major: Computer Science | **Specialization: Intelligent System** | GPA: 3.54/4

Bachelor + Master of Technology, Indian Institute of Technology (IIT) Madras | India **Aug 2017 - May 2022**
Major: Mechanical Engineering | **Minor: Artificial Intelligence & Machine Learning** | GPA: 3.62/4

Technical Skills

Languages C++, Python (Scikit Learn, PyTorch, Tensorflow), Javascript, SQL (SnowSQL, PostgreSQL), R

Software & Tools GCP, AWS, Azure, DataBricks, LangChain, LLMs, Hadoop, Spark, Visual Studio, Git, Snowflake, Power BI, Power Apps, AWS S3, SnowPipe, MongoDB

Professional Experience

Web Developer, Kahana Group Inc | USA **Sep 2023 - Jan 2024**
- Spearheaded the development of user-centric UI/UX features using React.js, significantly enhancing product usability
- Integrated robust analytics tools & leveraged data insights to guide product upgrades, increasing user retention by 4%
- Optimized front-end application performance, reducing page load times by 15% & improving overall user experience

Software Engineer, Quantitative Brokers | Chennai, India **Jun 2021 - Jun 2023**
- Led strategic integration of SonarQube & BlackDuck into Jenkins CI/CD pipeline, reducing critical risk factors by 20%
- Engineered an internal tool automating FIX order message creation and transmission, streamlining trading operations
- Enhanced FIX messaging platform by integrating support for Multi-Leg orders, boosting operational efficiency by 15%
- Designed & optimized data solutions supporting high-performance trading applications, enhancing database efficiency
- Developed interactive, high-performance Vue.js web application to visualize complex trading data for internal systems
- Provided robust production support and enhanced systems, ensuring high availability for critical trading infrastructure

Data Engineer Intern, Big Data Science Research | Bangalore, India **Apr 2020 - Jun 2020**
- Automated large-scale data mining & scraping, boosting processing efficacy by 25% for OpenStreetMap visualization
- Devised proprietary map-matching algorithm to model accurately urban traffic flow, facilitating efficient city planning

Machine Learning Engineer Intern, Alphabt – TVS Motors Ltd | Hosur, India **May 2019 - Jun 2019**
- Implemented a program to scan vehicle labels leveraging openCV, boosting validation performance system by 3%
- Devised a custom TensorFlow-based object detection model, achieving 99% accuracy in text engraving recognition

Projects

Gen-AI Engineer: Personal Assistant Bot | Personal Project **Apr 2025 - May 2025**
- Fine-tuned the Mistral LLM with QLora on a custom dataset to build a specialized and efficient personal assistant bot
- Integrated a Retrieval-Augmented Generation (RAG) pipeline to query personal documents, ensuring precise answers

Machine Learning Engineer: LLM-Powered Mac Automation Tool | Personal Project **Feb 2025 - Mar 2025**
- Developed a LangChain system for LLM Mac control, replicating core functionalities of Anthropic's Computer Control.
- Implemented tools for text simulation, mouse automation, image analysis, application management & web navigation

RL Engineer: Trajectory-Aware Human Feedback for Hierarchical RL | UTD **Sep 2024 - Dec 2024**
- Proposed a novel Hierarchical Reinforcement Learning framework to improve subgoal generation in complex tasks
- Deployed the Deep-RL framework in the FetchReach environment, resulting in a 10% increase in task success rates

NLP Engineer: Chatbot | UTD **Feb 2024 - May 2024**
- Built comprehensive knowledge base by web scraping & advanced NLP techniques enabling efficient data retrieval
- Engineered an LSTM-based model with an attention mechanism, improving response relevance and context by 25%

Machine Learning Engineer: Surface Texture Analysis | IIT Madras **Aug 2021 - May 2022**
- Systemized an approach in identifying machined surface textures with CV & ML techniques, achieved 99.6% accuracy
- Built Neural Network employing statistical features from GLCM for texture classification improving accuracy by 44%

AI Research Scientist: Optimization Algorithms | IIT Madras **Mar 2022 - May 2022**
- Assessed performance of various Stochastic Optimization algorithms on control agents in OpenAI gym environment
- Developed & applied Gradient Descent algorithms to optimize Deep Q-Network model, attaining a 15% boost in return

Applied Scientist: Multi-Agent Cricket Game | IIT Madras **Feb 2022 - May 2022**
- Formulated cricket game as Markov Decision Process for optimal decision-making of actions in dynamic system
- Modeled a 2-player Monte Carlo Tree Search algorithm for better action selection which elevated match outcomes

Awards and Honors

- Granted **Scholarship** for Graduate Studies by securing merit score in "Graduate Aptitude Test in Engineering" **2021**
- Awarded **Silver Prize** in "Terrace Farming Robot for Hilly areas" robotics challenge at Inter IIT Tech Meet **2019**
- Secured a place in the **Asia and Limca Book of Records** for "Most number of robots cleaning an area" **2017**