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: 3.55/4

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, NodeJS, React, PostgreSQL
Software & Tools	GCP, AWS, Azure, DataBricks, LangChain, LLMs, Hadoop, Spark, MATLAB, Visual Studio, Android Studio, Git, ROS (Robot Operating Software)

Professional Experience

Software Engineer, Quantitative Brokers | Chennai, India **Jul 2022 - Jun 2023**
- Led the strategic integration of SonarQube & BlackDuck into Jenkins pipeline, reducing critical vulnerabilities by 20%
- Designed a robust VueJS Web app, decentralized the database using ETL which improved database performance
- Engineered an internal tool to seamlessly create and transmit FIX (Financial Information Xchange) order messages
- Enhanced FIX tool by on-boarding functionalities for Multi-Leg orders which increased operational efficiency by 15%

Big Data Engineer Intern, Big Data Science Research | Bangalore, India **Apr 2020 - Jun 2020**
- Automated the data mining from Google Maps, elevating OpenStreetMap visualization using data overlay techniques
- Devised a proprietary map-matching algorithm to accurately model urban traffic flow, aiding in 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 a 99% accuracy in text engraving recognition

Projects

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

Machine Learning 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%

Web Developer | Kahana Group Inc **Aug 2023 - Jan 2024**
- Proposed adv. features & coordinated with cross-functional teams to design & implement UI/UX utilizing React JS
- Integrated analytics tool & initiated data-driven upgrades to meet user demands: Increased User Retention rate by 4%

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 Research 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

Leadership Experience

Teaching Assistant | UTD **Aug 2024 - Dec 2024**
- Coordinated with Professor for effective teaching tactics & class management by facilitating projects for 50+ students

Robotics Club Coordinator | IIT Madras **Aug 2017 - Dec 2019**
- Led a team of 5 and took end-to-end ownership to build Autonomous Ground Vehicle and Water Levitation projects

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**