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: 3.56/4
Coursework: Artificial Intelligence, Natural Language Processing, Data Structures and Algorithms, Database Design

Bachelor + Master of Technology, Indian Institute of Technology (IIT) Madras | India **Aug 2017 - May 2022**
Major: Mechanical Engineering | **Minor: Artificial Intelligence & Machine Learning** | GPA: 3.24/4
Coursework: Data Analytics, Pattern Recognition & Machine Learning, Stochastic Optimization, Reinforcement Learning

Technical Skills

Programming C++, Python (Scikit Learn, PyTorch, Tensorflow), HTML, CSS, NodeJS, React, Java, PostgreSQL
Software & Tools ROS (Robot Operating Software), Arduino, MATLAB, Visual Studio, Android Studio, Git, LaTeX
Certifications Design and Analysis of Algorithms, Android Development by Google, Trading Algorithms

Professional Experience

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

Software Engineer, Quantitative Brokers | Chennai, India **Jul 2022 - Jun 2023**
- Developed an internal application facilitating the seamless creation & transmission of Financial Information Exchange (FIX) protocol messages, automating and streamlining the order messaging process and enhancing trading operations
- Spearheaded the enhancement of the FIX messaging tool by integrating functionalities for complex Multi-Leg orders, driving a 15% operational efficiency improvement and enabling sophisticated trading strategies and faster execution

Software Engineer Intern, Quantitative Brokers | Chennai, India **May 2021 - Jul 2021**
- Led the strategic integration of SonarQube & BlackDuck into Jenkins pipeline, reducing critical vulnerabilities by 20%
- Designed a robust VueJS Web-app, significantly improving database performance through decentralized PostgreSQL

Big Data Engineer Intern, Big Data Science Research | Bangalore, India **Apr 2020 - Jun 2020**
- Automated the extraction of Google Maps data, 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 & verify vehicle labels using openCV, boosting validation performance system by 3%
- Devised a custom TensorFlow-based object detection model, achieving an 99% accuracy in text engraving recognition

Projects

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 4 distinct 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

Data Scientist: Hangman Game | Self Project **Jan 2022 - Feb 2022**
- Designed an algorithm for Hangman game where player has to guess letters of a word with limited number of guesses
- Augmented N-gram language model for capturing letter patterns to improve prediction & achieved an accuracy of 62%

AI Engineer: Bike Tour Recommendation | IIT Madras **Nov 2020 - Jan 2021**
- Optimized bike tour recommendations through exhaustive data preprocessing, data binning and feature engineering
- Drafted an ensemble of XGB, LGBM and CatBoost with meticulous hyper-parameter tuning yielding a 0.71 accuracy

Leadership Experience

Teaching Assistant | IIT Madras **Aug 2021 - May 2022**
- 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**