

Nikhil Anil Prakash

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Master's student in Electrical and Computer Engineering at Northeastern University, specializing in Computer Vision, Machine Learning, and Software Engineering.

EDUCATION

Northeastern University, Boston, MA

Dec 2025

Master of Science in Electrical and Computer Engineering - GPA: 3.9

Coursework: Machine Learning and Pattern Recognition, Robotics Sensing and Navigation, Computer Architecture, Autonomous Field Robotics, Fundamentals of Computer Engineering

PES University, Bengaluru, India

May 2023

Bachelor of Technology in Electronics and Communications Engineering - GPA: 8.27

Minor in Computer Science

Coursework: Machine Learning, Computer Organization and Digital Design, Artificial Neural Networks, Embedded Systems, Data Structures, Algorithms

SKILLS

Programming Languages: Python, C, C++, R, System Verilog

Engineering Tools: SolidWorks, MATLAB, SharePoint, SQL, Tableau, MS Office, Linux, Git, ROS, Jupyter

Python Libraries: NumPy, Pandas, TensorFlow, OpenCV, Scikit-learn, Matplotlib, GTSAM

Certifications: [Google Data Analytics](#), [IBM Data Science](#), [Machine Learning Specialization by DeepLearning.AI](#)

PROJECTS

Multiview 3D Reconstruction using Bundle Adjustment

Northeastern University

Nov 2024 - Dec 2024

- Improved the clarity of 24 images by applying CLAHE in OpenCV, enhancing feature detection capabilities with SIFT
- Determined camera positions and refined 3D reconstruction accuracy using bundle adjustment in GTSAM
- Achieved a 51.77% enhancement in accuracy of initial estimates through optimization with the Levenberg-Marquardt algorithm in GTSAM

Indian Premier League (IPL) Score Predictor

Northeastern University

May 2024 - Jun 2024

- Developed a predictive model for IPL match scores utilizing Linear Regression, Decision Trees, AdaBoost, and XGBoost, achieving 82% accuracy across over 500 historical matches
- Improved model performance by 15% via comprehensive data preprocessing and feature engineering in Python, focusing on player statistics and environmental factors
- Collaborated with two peers to refine predictive algorithms and documented the project lifecycle, presenting findings to instructors and peers to demonstrate the practical application of machine learning in sports analytics

Comparative Analysis of LiDAR based Mapping

Northeastern University

Mar 2024 - Apr 2024

- Implemented ROS to operate LeGO-LOAM and LIO-SAM for 3D mapping, achieving Absolute Trajectory Errors (ATE) of 65.24m and 248.17m respectively on KITTI and Gazebo datasets
- Boosted real-time pose estimation and mapping precision by coupling LiDAR with IMU data, minimizing Root Path Errors (RPE) to 0.825 units in simulated circular trajectories with LIO-SAM
- Conducted a thorough comparative analysis of computational efficiency and mapping precision, achieving a fourfold decrease in ATE for LIO-SAM in outdoor settings, demonstrating substantial improvements through sensor integration

PROFESSIONAL EXPERIENCE

Student Trainee, Bosch Global Software Technologies Pvt Ltd.

Feb 2023 - May 2023

- Developed inverter software functions for electric vehicles using ASCET and contributed to enhancing system functionality
- Engineered a software module in ASCET to safely switch the vehicle to a safe state upon reaching a specified voltage threshold, testing the code using a remote vehicle simulator
- Facilitated in the comprehensive documentation of ongoing projects, ensuring accuracy and completeness, while collaborating with the team to improve workflow efficiency

Summer Intern, Bosch Global Software Technologies Pvt Ltd.

Jun 2022 - Jul 2022

- Devised a speed monitoring model using ASCET, leading to a 15% improvement in calibration precision for electric vehicle systems
- Developed a Python-based data analysis interface, streamlining the process by 30% and enhancing monitoring and calibration tasks
- Collaborated with a cross-functional team to standardize components, achieving high compliance with company norms and reducing file generation warnings by 25%