

ABHISHEK SRIRAM

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Availability: January 2025 and ready to relocate

EDUCATION

Master of Science in Robotics Expected Apr 2025

Northeastern University

MA, United States

Coursework: Control Systems, High-Level Design of Hardware/Software Systems, Robot Sensing and Navigation, Robot Mechanics and Control, Computer Vision, Supervised Machine Learning and Learning Theory

Bachelor of Engineering in Mechanical Engineering

Jun 2019 - Apr 2023

Anna University

TN, India

Coursework: Mechatronics, Robotics, CAD, Python Programming, Statistics, Partial Differential Equations

Awards: Best Outgoing Student of Class 2019 (St. Joseph's Institute of Technology, aff. Anna University)

SKILLS

Programming Embedded C, C++, CUDA, Python, Java, Rust, MATLAB, Bash/Shell, SQL, Docker
Library/Framework ROS, OpenCV, PyTorch, NumPy, Matplotlib, Seaborn, RViz, Spring MVC, Next.js
Hardware/Tools Raspberry Pi, ESP-IDF, Arduino, AVR MCU, Linux, Git, GitHub Actions, SolidWorks

PUBLICATION

Sriram, Abhishek, et al. **"IoT-Enabled 6DOF Robotic Arm with Inverse Kinematic Control: Design and Implementation."** *2023 IEEE World Conference on AIC*, pp. 795–800 ([IEEE](#))

RELEVANT EXPERIENCE

NDim: Open Source Library for Efficient Scientific Computation | *Rust, OSS* Jul 2024 - Present
Open Source Software MA, United States

- Created n-dimensional array implemented with efficient memory blueprint along with linear algebra and used GitHub Action for CI/CD pipeline; performed regression and white-box unit tests
- 400+ downloads in one week on crates.io and documented the code using rustdoc style comments

(ADAS) Lane Detection and Road Segmentation | *C++, Python, OpenCV, PyTorch* Feb 2024 - Apr 2024
Northeastern University MA, United States

- Spearheaded the research and development of SOTA; processed images from KITTI dataset (stereo cameras) and achieved accuracy rate of 94.6% with runtime: 2.76 ms (C++) and 25.6 ms (Python) using probabilistic hough transform (computer vision technique) and particle filtering (non-linear optimization)
- Prepared dataset from KITTI for validation, test, and augmented for new data; achieved 99.45% pixel accuracy and 99.35% intersection over union (IoU) using U-Net deep learning algorithm for semantic segmentation (road)

(AGV) Autonomous Ground Vehicle SLAM | *Python, ROS, Raspberry Pi, LiDAR* Nov 2023 - Dec 2023
Northeastern University MA, United States

- Built firmware pipeline to interface sensors in ROS; trouble-shooted issues in Raspberry using forums
- Led a team of 4; implemented RTAB-SLAM and Kalman filter (signal processing); utilized LiDAR and camera in Raspberry Pi running on Linux Ubuntu IoT and compared performance with other SLAM techniques

IoT Enabled 6DOF Robotic Arm | *Embedded C/C++, JavaScript, ESP32, SolidWorks* Sep 2022 - Dec 2022
St. Joseph's Institute of Technology, aff. Anna University TN, India

- Designed and developed minimal viable product of 6DOF robotic arm in SolidWorks using aluminum brackets and servo actuators; implemented inverse kinematic algorithm from scratch in C++ and built user interface
- Optimized response network (lag) time by 2% by reducing the request payload (necessary data)
- Utilized ESP-32 (embedded system) to build REST-APIs; responsible for debugging SW and HW system

EXPERIENCE

Member of Technical Staff | *Java, Spring MVC, APIs, JavaScript, XML, SQL, Git* Jan 2023 - Aug 2023
Zoho Corporation, Data Intelligence Team TN, India

- Worked in a team of 20 members; Spearheaded the development of proof of concept integrating custom field translation into product's AI assistant Zia to reduce cost by 5% and translation time without 3rd party service
- Achieved 92% translation accuracy using Zoho's NLP API, optimizing network calls by 60ms through collaboration with the API team; completed the feature in less than 72 working hours
- Designed a database model in XML for automated schema and table generation and implemented REST-APIs conforming to software design patterns and architecture; documented endpoints for API usage