

# Abhishek Sriram

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## WORK EXPERIENCE

### Skyworks Solutions, Inc.

Massachusetts, USA

#### *PA Design Co-op*

Jan 2025 - Present

#### *Team: Mobile Solutions Business Unit, Supervisor: Dr. Neal Tuffy*

- Built Python GUI to orchestrate the automation of ADS simulation data and visualized plots in MS PowerPoint, reducing manpower and time to present data to management by 5-6 hours.
- Refactored code and enhanced GUI user interface, boosting user experience by ~20% and increased user usage by conforming to UI design pattern guides from Material UI.
- Containerized application using Docker and reduced software deployment hassle, ensuring robust operation throughout development cycle.

### Embedded Systems Lab, Northeastern University

Massachusetts, USA

#### *Research Assistant*

Nov 2024 - Present

#### *Supervisor: Dr. Gunar Schirner*

- Developed SOTA control techniques for endoscopy by leveraging reinforcement learning techniques like DQN, PPO, and SAC to optimize actuator efficiency and imaging performance.
- Designed a mathematical simulation model to validate control strategies, ensuring reliable robotic operation under real-world constraints.

### Zoho Corporation

Tamil Nadu, India

#### *Member of Technical Staff*

Jan 2023 - Aug 2023

#### *Team: CRM - DI Client, Supervisor: Mr. Udhaya Girish*

- Directed the development of proof of concept for custom field translation module, integrated with Zoho's AI assistant, [Zia](#), using Java (Spring MVC) and JavaScript, cutting translation expenses by 5% and removing reliance on external services.
- Delivered 92% translation precision by harnessing Zoho's NLP API, transforming multilingual content standards, and facilitating smooth global communication.
- Optimized network call performance by 60ms through collaboration with cross-functional teams.

#### *Software Engineer Intern*

Apr 2022 - May 2022

#### *Team: Zia Skills, Supervisor: Ms. Vallimeena Ganesan*

- Built project tracking application using Spring MVC - Java and TypeScript conforming to software design patterns and used multithreading safely for concurrent user usage with JDBC to communicate with PostgreSQL.

### St. Joseph's Institute of Technology (aff. Anna University)

Tamil Nadu, India

#### *Undergraduate Research Assistant*

Sep 2022 - Dec 2022

#### *Supervisor: Mr. Ramesh Krishnan (PhD)*

- Engineered an [IoT-enabled 6DOF robotic arm](#) with servo motor actuators in SolidWorks, applying digital signal processing (DSP) techniques such as PID control and pulse width modulation (PWM) to optimize motor precision.
- Developed inverse kinematics algorithm in C++ based on academic research papers and built a responsive JavaScript interface with 2% network latency reduction on ESP32 for remote control via RESTful APIs using JSON for data exchange.

## SKILLS

EXPERTISE	Reinforcement Learning, Image Processing, Deep Learning, Software Engineering, Full-Stack Development
PROGRAMMING	C/C++, Python, Rust, Java, TypeScript, Bash/Shell, SQL, PostgreSQL
LIBRARY & FRAMEWORK	PyTorch, OpenCV, Gymnasium, Pandas, NumPy, Matplotlib, GoogleTest, Spring MVC, React.js
HARDWARE & TOOLS	Raspberry Pi, ESP-IDF, Arduino, AVR MCU, Linux, Git, GitHub Actions, SolidWorks, Siemens NX

## EDUCATION

### Northeastern University

Massachusetts, USA

#### *Master of Science in Robotics*

(Expected) Dec 2025

#### *Advisor: Dr. Gunar Schirner*

*Coursework:* Reinforcement Learning, Control Systems, Computer Vision, Supervised Machine Learning, Robot Sensing and Navigation, Robot Mechanics and Control

### Anna University

Tamil Nadu, India

#### *Bachelor of Engineering in Mechanical Engineering*

Apr 2023

*Coursework:* Mechatronics, Robotics, Automobile Engineering, CAD, FEA, Python Programming, Statistics, Calculus I & II

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

## PROJECTS

### NDim: Open Source Library for Efficient Scientific Computation

- Engineered a compact, high-performance n-dimensional array library in Rust, facilitating faster image and audio processing (DSP) for machine learning applications and improving overall efficiency.
- Secured over 400 downloads within one week on crates.io and delivered extensive documentation on docs.rs.
- Implemented cloud-based CI/CD with GitHub Actions, ensuring robust regression testing and white-box unit tests.

## PUBLICATIONS

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](#))