

Nivishree Palvannan

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SOFTWARE DEVELOPER

I'm Nivishree Palvannan, a cheerful and driven professional, always eager to embrace new challenges with a positive outlook. Currently, at TORC Robotics, I focus on enhancing remote assistance systems and designing user-friendly interfaces for autonomous vehicles. My experience spans from crafting dynamic UIs and developing robust backend solutions to conducting comprehensive end-to-end testing and managing deployments. I've also contributed to innovative projects for early cancer detection at Philips Healthcare. With expertise in both front-end and back-end development, as well as testing and deployment, I'm passionate about using technology to tackle real-world problems. Let's connect and build something extraordinary together!

EDUCATION

Master of Science in Computer Science

August 2021 - May 2023

Virginia Polytechnic Institute and State University Graduate School, Blacksburg, Virginia, USA

Bachelor of Engineering, Electronics and Communication Engineering

May 2019

PSG College of Technology, Coimbatore, India

Adora Institute of Multimedia, Coimbatore, India

May 2011

Junior Diploma in Digital Graphics & Animation

PROFESSIONAL EXPERIENCE

Software Engineer - II, TORC Robotics

July 2023 - Present

- ✧ Designed and developed a web-based mapping service with TomTom maps and ReactJS, offering functionalities like route planning, live traffic updates, and driving directions.
- ✧ Transitioned legacy systems to microservices architecture with significant codebase enhancements, focusing on mission-critical functionalities, and formulated a testing strategy with PyTest and jest for full repository coverage.
- ✧ Collaborated with cross-functional teams to improve user experience, developing a remote assistance feature for truck monitoring and control, including emergency stop and resume functionalities.
- ✧ Engineered a truck services system providing real-time updates on connectivity, speed, direction, and issues such as fuel and engine failures, while addressing challenging bugs through on-call support.
- ✧ Developed a dynamic form generation and validation system using React JSON Schema, enhancing user interaction and data integrity.

Co-Op Full Stack Engineer, TORC Robotics

May 2022 - Aug 2022

- ✧ Extensively collaborated with the mission control team to create a user interface for tracking autonomous vehicles using ReactJS.
- ✧ Developed and deployed an AWS-based alert system to monitor video feeds and track real-time viewership of an autonomous system. Ensured the system's effective performance and reliability through successful maintenance and optimization.

Software Engineer, Philips Healthcare, Bangalore, India

June 2019 – August 2021

- ✧ Implemented Flask REST APIs for backend integration with Pinnacle, a radiation treatment planning software, and created an AngularJS-based frontend framework to manage organizations, patients, and planning functionalities.
- ✧ Conducted Nessus and Blackduck scans at the gated level to identify and address critical code issues, ensuring enhanced security and code integrity.
- ✧ Built a robust Selenium page object model framework using Python for automating a high-transaction web application and utilized Gherkin language for behavior-driven testing.
- ✧ Containerized microservices with Docker and orchestrated deployments using Kubernetes, improving application reliability and testability.
- ✧ Resolved CI/CD issues with Jenkins and organized employee engagement activities, achieving a 70% increase in participation rates.

Software Development Intern, Philips Healthcare, Bangalore, India

January 2019 – June 2019

- ✧ Developed the code quality of existing code base using TICS framework.
- ✧ Developed a consolidated database using Postgresql between workflow manager and patient monitoring system.

TECHNICAL SKILLS AND INTERESTS

Languages: Javascript, Typescript, Python, Java

Frameworks: Angular, NodeJS, ReactJs, VueJS, Flask, FastApi

Cloud/Databases: MySQL, NoSQL, Athena, DynamoDB, PostgreSQL, AWS Lambda, AWS CloudWatch, AWS Kinesis

Testing: Selenium, JUnit, PyTest, Playwright, Gherkin, Squish

Source Code Management (SCM): Git, GitHub, GitLab

Security & Performance: TICS, Nessus, Blackduck, JMeter

Technologies/Tools: Git, NPM, React Developer Tools, Node.js, Postman, AWS, AJAX, JSON, RESTful APIs, Jenkins, Docker, Kubernetes, Drupal, GIMP, Unity, Redux, HTML, CSS, Material UI, Figma, Terraform, Datadog

PROJECTS

Wearable Inspection and Report Management System (WIRMS) - UX designing for an Augmented Reality application developed in conjunction with the Virginia Department of Transportation (VDOT) that provides bridge inspectors with tools for developing and generating on-site bridge inspection reports.

Food Delivery Application - Built an android application that connects passengers with several restaurants on the Indian Rail network. It completes an entire fulfillment cycle right from the point of ordering to Delivery, Customer feedback and Reconciliation.

SuggestionBot - Revitalized code quality through proactive engagement in peer code reviews, harnessing GitHub's suggested changes. Innovatively developed "Suggestion Bot" to automate codebase reviews, resulting in accelerated response times and heightened comment quality. This initiative not only automated suggestions but also delivered concise and targeted feedback, enriching pull-based software development projects.

Reverse Kernel Debugging - Developed an automatic debugging framework to locate the root cause of crash/unexpected behaviors in the kernel. It is a reverse diagnostic tool to examine the root cause of kernel failures using Intel Processor Tracing and display it to the user in a user-friendly interface developed using ReactJS.

PUBLICATIONS

- ✧ **Nivishree Palvannan**, Dr. Chris Brown. "Suggestion Bot: Analyzing the Impact of Automated Suggested Changes on Code Reviews", 2023 IEEE/ACM 5th International Workshop on Bots in Software Engineering (BotSE)