

Roshin Kadanna Pally



roshinpally@gmail.com



[linkedin.com/in/roshinkadannapally](https://www.linkedin.com/in/roshinkadannapally)



<https://www.roshinkadannapally.com/>

Summary

Senior Software Engineer with a proven track record of delivering highly impactful features of top quality.

- * Expertise in designing and implementing simulation and visualization features for automated driving and signal processing fields
- * A team player with excellent work ethic and interpersonal skills
- * Expertise in leading a project and mentoring new hires and interns
- * Full stack application developer adept at handling various aspects of a challenging project
- * Experience in talking to customers, understanding their pain points, and delivering solutions
- * Experience working with cross-functional teams such as Usability, Technical Marketing, and Application Engineering to develop specifications

Experience



Senior Software Engineer

MathWorks

May 2016 - Present (4 years 7 months +)

Develop web-based visualization tools using C++, JavaScript, and MATLAB

- Development of driving scenario simulation tools in Automated Driving Toolbox

➡ <https://www.mathworks.com/products/automated-driving.html#dss>

➡ <https://www.mathworks.com/videos/driving-scenario-designer-1529302116471.html>

➡ <https://youtu.be/DcXZrbsBAJM>

Features: INS sensor integration; smooth, jerk-limited vehicle trajectories for simulation; Lidar point cloud generation; low-poly actor meshes; reverse motion in driving scenarios; road network data model for geographic maps such as HERE/OSM and OpenDRIVE; Driving Scenario Designer app; lanes ground truth specification, visualization, and detection; development of a Driving Scenario Reader block and Bird's-Eye Scope in Simulink

- Contributed towards the development of Logic Analyzer in Simulink

Visit ➡ <http://www.mathworks.com/videos/logic-analyzer-overview-121719.html>



Software Engineer

MathWorks

Dec 2010 - May 2016 (5 years 6 months)

Contributed to the development of the new Simulink Scope and a Unified Scopes infrastructure.

Visit ➡ <http://www.mathworks.com/videos/new-interface-for-scopes-106836.html>

- Worked with usability and visual design teams on the new Simulink Scope GUI style, font sizes, icons, and colors.
- Developed various features such as simulation playback controls, style dialog, and a new programmatic interface.

- Added support for assigning signals to displays, signal naming, sample times, Simulink report generator, performance advisor, enumerated data types, event-based signals, signal units, and data logging.
- Improved the performance of the Scope by converting the code to C++ and fixing memory leaks. Improved the robustness of the Scope by numerous bug fixes. And, made the code base more extensible for adding new features.

Some of my other contributions are:

- Development of a Java-based MATLAB System Object Editor.
Visit ➡ <http://www.mathworks.com/help/simulink/ug/insert-system-object-code-using-matlab-editor.html>
- MATLAB Compiler support for System Object Scopes.
- Mentored a project to upgrade a MALTAB S-Function block to a C++ block.
- Added support for Unicode in Scope Viewers and Floating Scope blocks. Refactored legacy C style code to use C++ and STL.



Signal Processing and Communications User Interfaces Intern

MathWorks

May 2010 - Dec 2010 (8 months)

- Migrated key graphical features of the MATLAB and Simulink products to the new MATLAB graphics system
- Provided basic graphical property editing capabilities in the Simulink Scope
- Improved performance of Simulink Signal and Scope Manager
- Contributed to port Signal and Scope Manager features to the new Simulink Editor
- Added internationalization (i18n) and localization (l10n) support for various GUIs
- Fixed numerous bugs in the infrastructure and improved usability of GUIs



Research Assistant

Virginia Tech

Jun 2007 - May 2010 (3 years)

I received a graduate research scholarship from the DSP Research Lab at Virginia Tech directed by Dr. Louis Beex. I worked on various projects in Signal Processing and Communications. The projects involved research, development, and testing of software to implement signal processing algorithms. Additionally, I helped setup the design project for the DSP & Filter Design course, graded the course projects, and taught one class of the Signals and Systems course.



Engineering Intern

eMerj

Aug 2006 - Oct 2006 (3 months)

- Implemented communication between a micro-controller & fingerprint reader evaluation board (RS-232), Serial EEPROM (I2C)
- Wrote embedded code to perform capture enrolling and capture verification of fingerprint templates; individually documented the project; team work in integration to an existing device



Teaching Assistant

SUNY New Paltz

Aug 2005 - Dec 2005 (5 months)

Course: Computer Simulation Lab

- Administered MATLAB workshops and lab sessions
- Guided students in MATLAB graphical user interface development

Education



Virginia Tech

M.S., Electrical Engineering

2007 - 2009

Thesis: Implementation of Instantaneous Frequency Estimation based on Time-Varying AR Modeling



SUNY New Paltz

B.S., Electrical Engineering

2004 - 2006

Senior Design Project: A Physical Activity Monitoring System

- Created an Embedded System to capture gait activity
- Created Software in MATLAB to process captured data

Licenses & Certifications



Leadership is everyone's business - FULL EXTENSION, LLC



Mastering React - Code With Mosh

cert_b0rr5js3

Skills

Matlab • C++ • JavaScript • Data Structures • Design Patterns • React.js • Node.js • MongoDB
• Dojo • Python (Programming Language)

Honors & Awards



Outstanding Graduate Award - State University of New York at New Paltz

May 2006



National Dean's List 2004-2006



Eta Kappa Nu Association

Dec 2005



Rashtrapati Scout Award (Presidents Badge) - President of India

Nov 1999