

Sameer Mankotia

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Education:

Ph.D. Computer Science

Expected Dec 2027

University of Idaho, Moscow ID

Master Of Computer Science

Dec 2024

University of Idaho, Moscow ID

Skills:

- | | | |
|-------------------------------------|-----------------------------|-----------------------------------|
| • C++, Python | • OOPs | • Jira, Azure, Confluence |
| • SQL | • SLDC | • Postman, Insomnia |
| • HTML, CSS, JavaScript, TypeScript | • Git and GitHub, bitbucket | • Jest, Playwright |
| • Flask, Django, React, Node.js | • Linux, UNIX, PowerShell | • Assembly stimulator Development |
| • Laravel, jQuery | • Virtual Environments | |

Experience and Involvement:

Research Assistant

Jan 2024 – Present

University of Idaho | Moscow, ID

- Developed a *FlexSimArch* Python-based processor simulator supporting both 32-bit and 64-bit RISC-V architectures with inheritance-based design for Schweitzer Engineering Laboratories, for cross-architectural security research.
- Wrote Integration testing framework with automated JSON test execution and cross-component validation, ensuring seamless interaction between all simulator components while maintaining system-level functionality and end-to-end reliability across the entire simulation platform.
- Leveraged object-oriented programming principles in Python to create a modular and extensible architecture, allowing for easy addition of new instructions and features.
- Implemented Host-Target Interface (HTIF) support to the stimulator enabling rapid prototyping of processor security enhancements and architectural innovations for both academic research and industrial applications.

Software Developer Intern

Jan 2023 – May 2024

Office Of Information and Technology, University of Idaho | Moscow, ID

- Collaborated with stakeholders to create comprehensive and detailed user stories for the MyUI app, with a primary focus on enhancing the MyUI Card functionality.
- Managed tasks and sprint planning using Jira and Azure DevOps, ensuring efficient tracking and seamless communication among team members.
- Transitioned from story creation to development by implementing MyUI cards for students and staff using React and Node.js, seamlessly integrating with the "Campus Labs" REST API to display dynamic, role-based data.
- Conducted automated testing using Playwright, ensuring the application's reliability and adherence to quality standards.
- Delivered project milestones by combining strong technical documentation skills with effective collaboration in a cross-functional team environment.

Summer Software Engineer Intern

Jun 2020 – Aug 2020

Cisco | Mumbai, India

- Developed and implemented comprehensive testing frameworks using Jest for unit testing and Selenium for automated browser testing to ensure end-to-end functionality and reliability across web applications and backend services.
- Contributed to automated testing initiatives by creating test suites with Jest for frontend components and Selenium WebDriver for UI automation, improving code coverage and reducing manual testing overhead for development teams.
- Supported quality assurance efforts by utilizing Jest for test-driven development and Selenium for cross-browser compatibility testing, identifying and resolving software defects while implementing best practices in automated testing methodologies.
- Collaborated with cross-functional teams to design and execute integration tests using Cypress ensuring seamless functionality across Cisco's software products and platforms through comprehensive API and user interface validation.

Projects:

Rat and Mouse Chase Game

- Built a console-based game in C++ using Visual Studio Code where a rat chases mice through a maze, implementing graph algorithms like Breadth-First Search (BFS) and Dijkstra's algorithm to find the shortest paths and optimal routes for gameplay.

- Created dynamic maze layouts using 2D arrays and recursive algorithms with GCC compiler, generating random obstacles and different difficulty levels while ensuring the rat could always reach the mice.
- Added scoring and game management features using object-oriented programming, creating separate classes for Player, Mouse, and Maze components, and saved high scores to files using file operations and linked lists.

Inventory Management System

- Developed a desktop application using C# and WinForms for real-time inventory tracking, supplier management, and sales report generation.
- Designed intuitive user interfaces and implemented CRUD functionalities for seamless data management.
- Wrote NUnit tests for unit-level validations to ensure reliability.
- Integrated a database backend with MSSQL, enabling efficient data storage and retrieval for all operations.

Life Cycle Assessment (LCA) and Sustainability Assessment Tool

- Developed a web-based platform for performing Life Cycle Assessment (LCA) using React and TypeScript, offering users a streamlined interface to define goals, scope, and boundaries for sustainability analysis.
- Integrated Jenkins for automating CI/CD pipelines, ensuring seamless deployment and continuous testing of the platform during development.
- Created dynamic features for life cycle inventories (LCI) including database imports/exports and automated sustainability calculations for environmental, economic, and social impact assessments. Utilized Node.js for backend development and implemented the Datadog observability platform to monitor real-time application performance in this yearlong project.

Achievements/Awards:

- Awarded 'Best Student Employee Award' as a Software Developer Intern for OIT for 2024-25.
- Awarded 'Outstanding Senior Year Award' for the year 2023-24.

Certifications:

- [Front -End Developer \(React\) Certified from Hacker rank.](#)
- [REST- API Intermediate certification.](#)