SPARSH NAIR

+1 (812) 778 4583 ◇ sparsh.nair@hotmail.com ◇ github.com/Sparsh-N ◇ linkedin.com/in/sparshnair/ ◇ Junior Standing

EDUCATION

Indiana University Bloomington   **Expected Grad. May 2026**
BS Computer Science (Systems and AI Dual Specialization)   GPA 3.72 / 4.00
Minors in Math and Data Science   Spring 2023 Deans List   Bloomington, IN
Courses: Software Systems (Java), Data Structures (Honors), Linear Algebra, Systems Programming (C, Linux)

EXPERIENCE

IU Dept of Intelligent Systems Engineering   3D Graphics Programming Researcher   **Oct. 2023 - Present**
- Contributing to FURY, open source **Python** scientific visualization and graphics rendering project, developing objects and shaders. Working in Garyfallidis Research Group, Department of Intelligent Systems Engineering.
- Create new primitive actor, and added object wireframe, culling and opacity functions referencing **VTK** commands.
- Produced test for actors and utility functions. Currently implementing Voronoi noise shader using **GLSL**.
- Debug and fix issues with Anti Aliasing methods used for render window component.

Mercedes Benz Research and Development India   **May 2023 - Aug. 2023**
Software Engineer Intern   *Bengaluru, India*
- Developed and debugged **Java** applications utilizing **Spring Boot, PostgreSQL, React** and **Docker** in IT for Engineering team. Designed ER Diagram for a webapp database.
- Created backend for webapp used by engineering managers on project, team and external source cost tracking.
- Introduced materialized views in backend application, reducing database query read time by **70%.**
- Implemented update methods for organization-wide internal Hackathon Portal frontend in **React**.
- Generate tests with **Mockito** and **JUnit**, utilizing **Postman** for API testing, and **XRadar** for code quality assessment.

IU ServeIT Nonprofit Clinic   UX Design Intern   **Jan. 2023 - May 2023**
- Employed AGILE methods by working in sprints to redesign non-profit website (ALASI) to enhance user experience.
- Created wireframes and mockups in Figma, aligning with design systems and adhering to style guides.
- Presented design solutions to team and external stakeholders, conducting A/B testing to gauge effectiveness.

PROJECTS

Cable Count Inventory System   *Java, Spring Boot, MongoDB, React + ViteJS, AWS, Docker*   Github   **June 2023**
- Developed full stack CRUD application for tracking cable inventory, creating ER Diagram for NoSQL database.
- Used React with ViteJS for frontend, Postman for REST API testing, parsing MongoDB output to exportable csv file. Containerized application using Docker, and hosted on AWS EC2 instance, using S3 Bucket for storage.

Raycasting Rendering Demo   *Java (Swing)*   Github   **Apr. 2023**
- Created Raycasting demonstration in Java, with randomly generated obstacles and support for multiple colors.

Morgan Stanley Code to Give Alpharetta   Github   **Apr. 2023**
- Collaborate in team of 6 in hackathon to conceptualize and construct streamlined communication app and accompanying presentation for Make A Wish - Georgia, creating a chatbot API with web app backend.
- Created Java/Spring Boot backend, implementing query and file upload/download rest APIs.

SKILLS

Programming Languages Java, Python, C, GLSL, Racket, HTML/CSS
Technologies + Tools   Git, Docker, Postman, MongoDB, PostgreSQL, ViteJS, AWS, Azure (AZ900)
Frameworks + Libraries NumPy, pandas, JUnit, Mockito, Spring, VTK, React, Swagger
Other   Fusion360, Illustrator, Photoshop, Figma, LaTeX, Linux | English, Mandarin, Hindi, French (A2)

EXTRACURRICULAR INVOLVEMENT

IU Cybersecurity Club Vice President   **May 2023 - Present**
- Organizing technical labs and networking events incorporating hands-on activities for 50 club members.
- Co-presented labs on Defense using SIEMs with Splunk and Debian VM, Docker and Cryptography.