SANCHITA DHARESHWAR

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EDUCATION

National University of Singapore   *Aug 2023 – May 2027*
Bachelor of Computing in (Computer Science), NUS College Honours program   **[expected]**
- Minor in Interactive Media Development
- Awarded the NUS Merit Scholarship (*2023 – present*)
- Relevant coursework: Programming Methodologies, Data Structures and Algorithms, Operating Systems, Machine Learning Foundations, Computer Graphics, Software Engineering Patterns and Principles

SKILLS

- **Programming languages:** Python, Java, C#, C/C++, HTML5+, CSS3, JavaScript, TypeScript, Bash
- **Software frameworks/APIs:** React, Next.js, Node.js (Express), TailwindCSS, Numpy/PyTorch, OpenGL
- **Developer tools/Databases:** Github, VSCode, JetBrains IDEs, Unity Game Engine, PostgreSQL, Redis
- **UI/UX Design:** Figma, Photoshop, Illustrator, InDesign

EXPERIENCE

Software Engineering Intern - Simulation and Data Pipeline   *May 2025 - Aug 2025*
Vilota AI, Singapore
- Built an internal developer platform off an existing rendering engine to automate robot camera calibration and algorithm validation workflows, reducing end-to-end validation time by >10×.
- Implemented a multi-camera simulation interface with a configurable frontend UI for real-time visualization and backend services managing data streaming, synchronization and export.
- Engineered modular Python backend components with GPU-accelerated rendering pipelines using PyTorch and high-throughput data processing with the Foxglove MCAP API.

Software Engineering Patterns and Principles Teaching Assistant   *Jan 2026 - Present*
National University of Singapore
- Preparing for and conducting weekly tutorial sessions on SWE principles, patterns and best practises for a class of 15 students
- Mentoring student teams on semester-long full-stack software engineering projects

PROJECTS

PeerPrep, *School Software Engineering Project*   *Aug 2025 – Nov 2025*
- Organised a team of 5 to build a full-stack web application with microservices architecture that matches users for real-time collaborative coding and tracks long term progress
- Developed frontend pages using TypeScript, Next.js, and Tailwind CSS, implementing interfaces from Figma prototypes.
- Designed and implemented RESTful APIs and PostgreSQL database schemas using Express.js and Prisma ORM for attempt history tracking microservice
- Built real-time collaborative code editor using Websockets (Socket.io), YJS CRDTs for conflict resolution and Redis for caching for crash recovery

Surf or Pay, *HacknRoll Hackathon Project*   *Jan 2025 – May 2025*
- Developed a task management web application that uses monetary forfeits to counteract procrastination- a common issue among urban students in Singapore
- Worked on UI design and front-end development using React.js, CSS, and HTML

Pocket Explorer, *Apollo Orbital Project*   *Mar 2024 – Jan 2025*
- Created an Android mobile game to spark biodiversity awareness and interest by over 30%, addressing the deficit in interest in urban nature observed among Singapore's youth and families.
- Implemented a JSON-based animal species database in Unity, optimizing C# scripts for seamless data retrieval and integration in the Android APK to reduce load times

LEADERSHIP AND EXTRACURRICULAR EXPERIENCE

Exco, NUS Games Development Group
Web Developer, (React.js) | PDPA Officer   *Feb 2025 – Present*
- Coordinated the design and development of an interactive timeline for CCA's website using the React framework, aimed at boosting student engagement with the website and streamlining access to key information.
- Responsible for verifying club activities' compliance with PDPA and validation of new members