SANCHITA DHARESHWAR

93432277 • sanchita.dhareshwar@u.nus.edu • Github: sannie-beep • LinkedIn
• Portfolio: https://sanchita-dhareshwar.vercel.app/

EXPERIENCE

Spatial Algorithm Verification Engineering Intern
Vilota AI, Singapore   *May 2025 - Aug 2025*

- Built an end-to-end pipeline (images → simulator → MCAP) using open-source libraries, enabling deterministic, reproducible simulated visual data streams to validate visual-inertial positioning devices.
- Engineered a ray-generation, multi-camera virtual simulator that replicated company device geometry and intrinsics/extrinsics to produce synchronized visual streams for testing.
- Automated calibration parsing, virtual device placement and trajectory export, cutting simulation setup & data-export time by >10×.
- Reduced reliance on manual data collection and calibration runs by 90% by enabling rapid generation of MCAP-format test files from predefined trajectories.

EDUCATION

National University of Singapore (NUS College)   *Aug 2023 – Present*

- Bachelor of Computing in Computer Science with NUS College Honors Program
- Awarded the NUS Merit Scholarship   (*2023 – present*)

School of the Arts, Singapore (International Baccalaureate Diploma)   *Jan 2017 - Oct 2022*

- Awarded David Marshall Scholarship   (*2017, 2022*)

SKILLS

- **Programming languages:** Python, Java, C#, C, HTML, CSS, JavaScript, C++ (OpenGL)
- **Concepts:** Data Structures and Algorithms, OOP, Software Engineering, Computer Organization Machine Learning Foundations, Schema Design, Computer Graphics, Operating Systems
- **Developer tools:** Github, VSCode, JetBrains IDEs, Unity Game Engine, Photoshop, Illustrator

PROJECTS

Surf or Pay, HacknRoll Hackathon Project   *Jan 2025 – Present*

- 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
- Upon completion, rollout to approximately 150 dorm residents is anticipated to improve task completion rates by 25-45%.

Pocket Explorer, Apollo Orbital Project   *Mar 2024 – Present*

- 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
- Proposed to director of LKCNHM leading to a prospective collaboration to expand our game's reach

SpaceX launches browser (WebGL)   *Dec 2024 – Jan 2025*

- Developed a SpaceX Launches Browser in Unity and C#, integrating SpaceX's REST API (tested via Postman) to asynchronously fetch and parse live launch data to render in a readable format

LEADERSHIP AND EXTRACURRICULAR EXPERIENCE

Exco, NUS Games Development Group
Web Developer, (React.js)   *Feb 2025 – Present*

- Currently coordinating 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.