

# JYOTSNA VENKATESAN

+852 97753135 | venkatesanjyotsna@gmail.com | linkedin.com/in/jyotsna-venkatesan | github.com/jyotsna-venkatesan | jyotsnav.netlify.app

## Education

**The Hong Kong Polytechnic University**

**2022 – 2026**

*BSc (Hons) in Computer Science*

*Full Tuition Scholarship*

## Honors and Awards

<b>Full Tuition Scholarship</b> — Awarded for academic merit (HKD 580,000)	2022 – 2026
<b>HKSAR Reaching Out Award</b> — For international student outreach (HKD 10,000)	2024
<b>Cathay Pacific Hackathon Semi-finalist</b> — Semi-finalist among 1500+ participants	2024
<b>Dean's Honours List</b> — For exceptional academic achievement	2024 – 2025
<b>Micro Fund Shortlisted Team</b> — Admitted to HKSTP Ideation Program and granted HKD 20,000	2025
<b>PolyU Delegation, IAC Sydney</b> — Selected to represent The Hong Kong Polytechnic University at International Astronautical Congress	2025

## Skills

**Programming Languages:** Python, Java, C++, C, JavaScript, TypeScript, Swift  
**Web and Frontend:** React, Vue, Svelte, HTML/CSS, Tailwind CSS, Figma  
**Backend and Databases:** Node.js, MySQL, MongoDB, REST APIs  
**DevOps and Tools:** Docker, Git, Bash, MIPS  
**AI/ML:** LLMs, Model Context Protocol (MCP) servers, Azure OpenAI, Claude, GPT APIs, ElevenLabs, n8n  
**Testing:** Selenium, Appium, JUnit, TestNG

## Experience

**AI Consultant**

**September 2025 – Present**

*Jordan Limited*

*Hong Kong*

- Designing and orchestrating intelligent workflows for voice-enabled and interactive applications.

**Co-founder and CTO**

**May 2025 – Present**

*Orbityr*

*Hong Kong*

- Founded an AI-powered location intelligence company, overseeing product development and technical strategy.
- Accepted into HKSTP's 1-year Ideation Programme (HKD 100,000 grant) and secured additional HKD 20,000 funding.

**Full Stack Gen AI Software Developer**

**June 2025 – August 2025**

*Career Hackers*

*Hong Kong*

- Developed features for an AI interview platform with TypeScript using the MERN stack.
- Designed data schemas and interfaces for the platform with Figma.
- Built a resume parser, a Model Context Protocol server, and implemented search techniques including BM25, HNSW, and RRF using ElasticSearch.

**Quality Assurance Automation Intern**

**September 2024 – December 2024**

*GoGoX*

*Hong Kong*

- Automated 90% of regression tests, reducing manual testing time from 2.5 days to 3 hours using Java and Appium.
- Improved test coverage through data-driven testing techniques.

**Quality Assurance Intern**

**June 2024 – August 2024**

*GoGoX*

*Hong Kong*

- Automated 100% of sanity test suite, reducing execution time by 25% with Java and Appium.
- Expanded automated test coverage across 3 platforms and 3 countries.

- Participated in scrum meetings, gained understanding of agile methodologies.

## UI/UX Designer

February 2024 – May 2024

*PolyU Smart Cities Research Institute*

*Hong Kong*

- Designed QC Spatial-3Dx, a 3D camera application, using Figma and Adobe Photoshop.
- Led frontend development using React and Three.js for a responsive website.

## Web/Frontend Design Engineer Intern

June 2023 – August 2023

*Oxbridge Economics*

*Hong Kong*

- Designed and developed web apps using Figma and React.
- Implemented RESTful API connections, improving data flow efficiency between frontend and backend.

## Student Assistant

February 2023 – April 2023

*CLP*

*Hong Kong*

- Assisted in development and testing of PolyU's Generator Inspection Robot at CLP's power plant.

## Frontend Web Development Intern

June 2021 – July 2021

*Sleep Deprived Dreamers*

*India*

- Designed and developed the website's frontend using Figma and Knorish (education platform builder).
- Awarded a scholarship of INR 15,000 (approximately HKD 1,300) for contributions.

## Projects

### Orbityr - Location Intelligence

SvelteKit, TypeScript, Node.js, Tailwind CSS, MCP

- Built an AI-powered location intelligence platform enabling real-time spatial data analysis using SvelteKit and TypeScript for seamless frontend/backend integration.
- Implemented Model Context Protocol based infrastructure for efficient real-time data retrieval and AI model orchestration.
- Designed scalable full-stack architecture with Tailwind CSS for responsive, modern UI.

### Secure Online Storage System

Python, AES-GCM, SQLite3, PBKDF2, TOTP, Flask

- Developed a client-server secure file storage system with end-to-end AES-GCM 256-bit encryption, two-factor authentication, and strict access controls.
- Implemented audit logging, parameterized queries, and robust defenses against SQL injection, path traversal, and unauthorized access.

### Sporkify - Recipe Management Application

Vue.js, Node.js, SQLite3, Tailwind CSS, Axios, Express.js

- Developed a full-stack recipe management app with secure user authentication, CRUD operations, and responsive UI.
- Implemented advanced search, category-based filtering, and image uploads with RESTful API endpoints using Node.js and Express.
- Designed structured SQLite3 database with tables for users, recipes, and metadata for efficient querying.

### Cosmic Soundscape Generator

Python, MIDI, Computer Vision, NumPy, OpenCV, music21

- Generated MIDI music from images using computer vision techniques to map color, texture, and shapes to tempo, scale, instruments, and chord progressions.
- Created multi-track compositions with algorithmic harmony; output project **referenced by Samsung Research India** for integration and citation.

### ZZZAFARI - Sleep Tracker Mobile App

SwiftUI, Swift, Core Data, Xcode, Krea

- Developed a sleep tracker mobile app with an interactive animal reward system dynamically reflecting user sleep patterns.
- Created all custom animal assets and AI-assisted backgrounds using Krea to enhance UI/UX design.
- Implemented persistent storage with Core Data and interactive SwiftUI animations for engaging user experience.

## Leadership & Activities

**Member**, Rewriting the Code (Women in Tech community)

2025 – Present

**President**, PolyU Hall Community Service Group

2024 – 2025

**Vice President**, PolyU SAO International Student Association

2023 – 2024

**Powertrain Team Member**, PolyU E-Formula Racing

2023 – 2024

**Technical Mapping Team Member**, PolyU Robocon

2022 – 2023

**Workshop Facilitator**, ProjeKt Inspire (Tanzania)

2024