PRAGATHI SATEESHA ASHARANI

Singapore | +65 8424 4343 | sateesha001@mymail.sim.edu.sg **Portfolio** | **LinkedIn** | **GitHub**

EDUCATION

University of London (SIM Global Education) | Singapore *BSc (Hons) in Computer Science (Machine Learning & AI)* | *Expected 2027*

- **Honors:** First Class Honors (Year 1 Average: 86.5%)
- Global Student Representative (Selected as 1 of 15 worldwide).
- **Relevant Coursework:** Data Structures & Algorithms, Object-Oriented Programming, Software Design, Discrete Mathematics, Graphics programming

TECHNICAL SKILLS

- **Languages:** JavaScript (ES6+), TypeScript, Python, HTML5, CSS3, SQL.
- **Frontend & UI:** React.js, Next.js, Redux, Tailwind CSS, Vite, Chart.js, p5.js.
- **Backend & Systems:** Node.js, Express, REST APIs, WebSockets, System Design (Caching/Paging).
- **Tools:** Git, GitHub Actions, CI/CD, Jest, Figma, Vercel, Netlify.

EXPERIENCE

Cedour | *Founding Engineer* | *Remote*

- Co-founded a digital strategy and branding firm; solely responsible for the full-stack engineering of client solutions and internal tools.
- **Client Project (GlassRoom):** Engineered tracking framework to analyze segmented outreach data, resulting in a **180% lift in engagement metrics**.
- Optimized content delivery pipelines based on user interaction data, driving a **35-40% increase in organic impressions** for client campaigns.
- Directed the end-to-end development of scalable web identities, bridging algorithmic complexity with product utility.

KEY PROJECTS

DocsLite '95 | *React, WebSockets, Operational Transformation*

- Engineered a real-time collaborative text editor supporting concurrent users with sub-100ms latency.
- Implemented **Operational Transformation (OT)** algorithms to resolve edit conflicts and ensure eventual consistency across distributed clients.
- Designed a performant, retro-styled UI (Windows 95 aesthetic) using CSS-in-JS and optimized React state management for high-frequency updates.

CacheFlow | *React, Algorithms, System Design*

- Developed an interactive memory hierarchy simulator to visualize CPU cache coherency and eviction policies.
- Implemented **LRU (Least Recently Used)** and **LFU (Least Frequently Used)** algorithms to dynamically demonstrate cache hit/miss ratios in real-time.
- Reduced rendering overhead for complex data structures by optimizing component re-renders.

RouteGen | *JavaScript, Graph Theory, Pathfinding*

- Built a visualizer for weighted graph algorithms, implementing **Dijkstra's Algorithm** and *A Search**.
- Created an interactive grid system to demonstrate the time-complexity differences between Breadth-First Search (BFS) and heuristic-based pathfinding.

Altalyze | *JavaScript, FinTech APIs, Chart.js*

- Constructed a financial modeling engine that ingests live Forex data via REST APIs to estimate startup valuation multiples.
- Integrated **Chart.js** to render dynamic, compounding profit simulations based on real-time currency fluctuations.

LEADERSHIP & AWARDS

- **Hackathon Participant (36-Hour Sprint):** Developed a fitness-inspired arcade game using **Python (Pygame)**. Implemented a custom physics engine, sprite animation, and collision detection logic under strict time constraints.
- **Global Student Representative:** Acted as a liaison between the University of London administration and the global student body, organizing feedback loops for curriculum improvement.
- **Academic Excellence:** Achieved a perfect score (100/100) in Computer Science and Biology in Grade 10 with Overall 96% and 90% in Grade 12