Ken Chen

647-507-8176 | Ken.chen8176@gmail.com | linkedin.com/in/Ken | github.com/Ken | Personal Portfolio

Education

University of Toronto Toronto, ON

*Bachelor of Applied Science, Computer Engineering + **PEY Co-op*** Sept. 2024 – Apr. 2028

- Relevant Courses: Linear Algebra, Calculus I and II, Computer Fundamentals, Digital Systems, Programming Fundamentals, Software Design and Communication

Experience

Software Engineer Intern May 2025 – Aug. 2025

TD Bank Toronto, ON

- Spearheaded the engineering of an internal-to-external asset mapping pipeline with database-backed tracking, accurately connecting 98% of 20,000+ asset pairings across relational and NoSQL stores
- Programmed a Python automation framework with multi-threaded processing and database connection pooling for security compliance and API status assessment across 100,000+ enterprise assets
- Deployed a network discovery crawler that identifies 99% of 5,000+ shadow assets utilizing ETL processing for database integration and ServiceNow asset ingestion

Projects

Lattice - 3D Holographic Imaging System | *C++, Unity, OpenCV, OpenGL* Sep. 2025

- Built a Unity-based 3D point cloud streaming framework with C++/C# integration for mixed reality visualization
- Architected 3D geometric-conversion algorithm leveraging pinhole camera model for coordinate transforms, k-d tree spatial search for image reconstruction, and convex hull alignment for point cloud offset and camera calibration
- Designed a network rendering pipeline with custom GLSL shaders for high-performance real-time data streaming

Stocker - Stock Trading Simulator | *React, Node.js, Firebase* Jun. 2025 – Aug. 2025

- Constructed a full-stack stock trading simulator with portfolio management, trade execution, and 20+ users
- Implemented live price updates, client-side data caching, and automated portfolio rebalancing via cloud functions
- Integrated account authentication, distributed rate limiting, and batch transactions with concurrency control

Spooky Spikes - 3D Obstacle Avoidance AI | *Python, Tensorflow, Keras* May 2025 – Jun. 2025

- Trained a DQN agent to play a reflex-based game by learning to jump and duck over obstacles with 99% accuracy
- Optimized model using 3-layer ELU network, target network synchronization, and adaptive epsilon exploration
- Programmed an AI decision dashboard and 3D rendering pipeline using 2D polygon projection with depth sorting

Deadknight - Java RPG Game Engine | *Java Swing, Java AWT, JavaIO* Apr. 2024 – May 2024

- Engineered a Roguelike game with procedural level generation, multithreaded rendering, and adjustable controls
- Developed a physics engine using Separating Axis Theorem for convex hull collision detection, binary search optimization for collision-free movement resolutions, and k-d tree spatial partitioning for entity interactions
- Built a level design pipeline with a graphical level editor, map selection algorithim, and systematic content loading

Awards & Certifications

Hack the North - Finalist Winner & YC Invitee | *Hack the North* 2025

- Won Best Overall and YC Unicorn Prize interview over 250+ teams at North America's largest hackathon
- Created Lattice, a 3D holographic point cloud projection system using Xbox Kinects and Microsoft HoloLens

AWS Certified Cloud Practitioner | *Amazon Web Services* 2025

- Acquired foundational AWS cloud services and architecture knowledge

Governor General Academic Medal | *Thornhill Secondary School* 2024

- Awarded to the student who achieves the highest-grade average upon graduation from a secondary school

Technical Skills

Languages: Java, Python, C/C++, JavaScript, SQL, TypeScript, Ruby, HTML/CSS, Kotlin
Developer Tools: Git, Docker, Kubernetes, Ansible, Postman, Firebase, AWS, Azure, GraphQL, MySQL, PostgreSQL, MongoDB, Linux, Unix, Jira, ServiceNow, SonarQube
Frameworks & Libraries: NumPy, Pandas, TensorFlow, PyTorch, FastAPI, Flask, Django, React, Angular, Node.js, Selenium, OpenCV, OpenGL