Ken Chen

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EDUCATION

University of Toronto — Toronto, ON
*Bachelor of Applied Science, Computer Engineering + **PEY Co-op*** — Sept. 2024 – May 2028
- Relevant Courses: Linear Algebra, Calculus I and II, Computer Fundamentals, Dynamics, 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, accurately connecting 98% of 20,000+ asset pairings
- Programmed scalable Python scripts that scan 100,000+ company middleware assets for CID policy and security compliance, reducing manual analysis time by 90%.
- Deployed IP web crawler that identifies 99% of 5,000+ previously unknown assets, enabling seamless ingestion into ServiceNow for audit logging.

PROJECTS

Stocker - Stock Trading Simulator | *React, Node.js, Firebase* — Jun. 2025 – Aug. 2025
- Constructed a full-stack stock trading simulator that enables virtual portfolio management and trade execution
- Implemented data caching with in-memory structures to reduce redundant API calls and optimize performance
- Integrated a leaderboard system that ranks users by portfolio value using cloud functions and database triggers

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
- Programmed reward shaping, experience replay, and epsilon-greedy exploration to shape training performance
- Optimized training efficiency and constructed custom environment to deploy and see the AI run

ModelShift - AI Response Comparison Tool | *React, Node.js, Crypto* — Dec. 2024 – Mar. 2025
- Devised a React/Node.js app for prompting multiple AI models simultaneously with encrypted API key storage
- Architected AES-256 encryption, layered rate limiting, and automated abuse detection to safeguard APIs
- Designed a responsive UI with exportable results, usage analytics, customizable chat options, and AI selection.

Deadknight - Java RPG Game Engine | *Java Swing, Java AWT, JavaIO* — Apr. 2024 – May 2024
- Engineered a 2D Roguelike game in Java with 60 FPS, multithreaded rendering, real-time input, and animation
- Developed a sophisticated physics engine featuring convex hull collision detection using Separating Axis Theorem, binary search velocity resolution, and KD-Tree spatial partitioning for entity interactions
- Built a level design pipeline with a visual level editor, procedural level generation, and dynamic content loading

AWARDS & CERTIFICATIONS

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, TypeScript, Go, Ruby, HTML/CSS, SQL
Developer Tools: Git, AWS, Azure, VS Code, PyCharm, IntelliJ, Eclipse, CLion, Arduino, MATLAB, Qualys, Jira, ServiceNow, Firebase, MongoDB, Docker, Kubernetes, Ansible, Postman, Linux, Unix
Libraries: Flare, NumPy, JavaSwing, JavaFX, Pygame, Selenium, Pandas, Tensorflow, Node.js, React