Kenneth Chen

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EDUCATION

McGill University, Montreal **Expected 2028**
BSc. Honours Statistics and Computer Science CGPA: 4.0

SKILLS

Languages: Python, JavaScript (ES6), Java, Rust, HTML5, CSS3
Frameworks & Libraries: Pandas, NumPy, SciPy, Scikit-Learn, Flask, Node.js, React, PyQt, TensorFlow
Tools & Platforms: Firebase (Firestore NoSQL), Microsoft Azure, Google Cloud, Git, Linuxuniv
Certification: edX: CS50AI Introduction to Artificial Intelligence with Python
Language Skills: English, French, Chinese (Full proficiency)

EXPERIENCE

Software Engineer Intern, *Optim-Structure* **May 2026 - August 2026**
- Architected full-stack web application for data handling and project management, with automatic context-aware autofill, reducing on-site manual data entry by 75%
- Created automated tool (Angular, Node.js) for structural repair triage and damage assessment, reducing civil engineer oversight by 12%
- Built 2 mobile applications for structural inspectors for on-site report handling improving efficiency of data recording utilizing Firebase

Vice-President, *MariHacks Hackathon* **September 2022 - May 2023**
- Organized the 6th edition of MariHacks, the largest (178 participants) in-person Hackathon for CEGEP students.
- Negotiated with sponsors to secure funding and prizes, managing a $7,000+ budget.

PROJECTS

“Project Neon Cat”: High-Realism Physics Game, *McGill Physics Hackathon (10th edition)* **February 2026**
- Secured 1st Place in the Gameplay Education Prize.
- Built and deployed a browser-based physics engine turned game using HTML5 Canvas, Vanilla JavaScript (ES6), CSS3 and Node.js tooling; structured runtime into modular game loop, rendering, level, input, and ability systems.
- Implemented deterministic pure physics mechanics (6 tools) using vector math, radial force falloff, impulse models.

“Bartr”: Mobile Bartering Application, *AMC Intact Hackathon (7th Edition)* **December 2025**
- 1st Place Overall and UX Prize ($1,500) at AppIETS Mobile Challenge
- Architected a real-time backend using Firebase Firestore NoSQL streams, implementing a mutual-like matchmaking algorithm and a live peer-to-peer (P2P) chat system.
- Engineered a secure "double-handshake" protocol using atomic database transactions to prevent race conditions during concurrent item exchanges, alongside Geolocator for GPS-based proximity tracking.

“PopCatstinate”: AI Productivity Analysis Web Extension, *McGill AI Hacks Hackathon* **September 2023**
- Developed a Chrome extension for productivity analysis, using k-Nearest Neighbors (kNN) and word2vec for NLP to analyze browsing habits and predict productivity levels based on user's web history.
- Measured a 59% productivity through optimized task taking.
- Engineered the backend in Python with Flask, utilizing Scikit-Learn and word2vec for data processing, and deployed the application on a Microsoft Azure server; frontend implemented in JavaScript, HTML, and CSS.

Gravitational and Orbital simulation with Lagrange Points, *McGill Physics Hackathon* **November 2022**
- Engineered a Linear run-time Python algorithm enabling the estimation of n-body movement dynamics (quintic function) within a vacuum environment at 99.68% accuracy.

Course Registration Calendar Builder, *MariHacks Hackathon* **April 2022**
- 1st Place in the Leading Learner’s Category
- Designed an interactive website for 733 courses (JavaScript, HTML, CSS).

ADDITIONAL WORK & AWARDS

Collegial Programming Club Executive, *Marianopolis College* **August 2022 - May 2023**
- Led workshops attended by 125 club members, covering Python, Pandas, and NumPy

Dragonboat Team Member, Marianopolis College **January 2022 - August 2024**
- 2 Gold medals at Montreal Challenge 2023.