

Kenny Zhang

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Education

Bachelor of Science in Computer Science *Simon Fraser University* **Burnaby, British Columbia** *Sept 2025*
Computer Science Major, Minor in Interactive Arts and Technology | Dean's Honour Roll: Spring 2024.

Experience

Mission Operations Co-Lead / *Python, TypeScript, Node.js* *Sept 2023 - Present*
Simon Fraser University Satellite Design

- Used GRPC to develop Python-based bridge for bidirectional serial communication to ALEASAT satellite.
- Implemented web service to interface with the GRPC Python driver using TypeScript and Node.js.
- Led a team of 2 designers, and supported 2 developers in the design and full implementation of the ALEASAT website.

Data Visualization Programmer, Contract / *Leaflet.js, Node.js, Express.js, MySQL* *Jul 2022 - Sept 2023*
Simon Fraser University Faculty of Education

- Designed interfaces and coded web interfaces with Leaflet.js and HTML, CSS and JavaScript to interactively plot research and publication data on a map with informational cards.
- Engineered efficient CSV uploading system with automated data cleaning, filtering and fast insertion (under 2 seconds) into MySQL database.
- Implemented an efficient backend with Node.js, Express.js using MySQL database and deployed on CPanel to track and store tabulated research entries with less than 200 ms access time.

IT Support Technician, Co-op / *Powershell, AD, Jira* *Feb 2021 - Aug 2021*
College of Physicians and Surgeons of British Columbia

- Resolved College-wide email extraction problem using Powershell scripting and AD tree traversal simplified to a button click.
- Collaborated with the IT Helpdesk team with triaging, and resolving user requests using Jira, resolving 20+ requests a week.
- Proposed a cost saving solution to Adobe Acrobat: PDFelement, with potential for cost savings \$100000 over 5 years.

3D Artist and Front-End Developer, Contract / *Unity, C#* *Oct 2020 - Jul 2021*
Simon Fraser University, Science World

- Used Zappar's AR computer vision, Unity and C# scripting to generate interactive augmented reality environments for furthering Bee lifecycle education.
- Implemented touch interactions to allow users to pinch, zoom and rotate the animated 3D bee.
- Implemented custom gesture recognition script reduces responses times under 200 ms.

iOS Frontend Developer, Intern / *iOS, Swift* *Jun 2019 - Aug 2019*
Game of Apps

- Implemented Expand Your Knowledge, a searchable repository sorted with all lecture materials for all sessions of GoA, along with improving the functionality of the main dashboard screen reducing search time by 10%.
- Collaborated with other team members and helped them resolve bugs with their code and ensure project requirements are met.
- Developed and improved the Credits screen and ensured the screen matches the expectations per the design team.

Projects

ConvoBuddy - Conversation Entry App / *Pandas, React, Python, Node.js* *Sept 2024 - Dec 2024*

- Developed and integrated three major subsystems for tracking user positioning, speech extraction and GPT4o integration for realtime conversation transcription and entrance tips.
- Implemented real-time speech extraction engine using FFT for detecting active speech and Web Speech API and cleaning for generating real-time transcriptions and timing information using Pandas and NumPy.
- Programmed GPT4o bridge using Python and Node.js to allow for injecting external data directly to LLM for obtaining conversation summaries and advice for entering conversations within 2 seconds.

SHOP THE NORTH - Hack The North 2024 Winner / *Unity, C#*, *Sept 2024 - Sept 2024*

- Developed immersive virtual reality shopping experience using Unity winning sponsor prizes from Shopify and Ubisoft.
- Implemented grabbable clothes that can be worn naturally.
- Implemented custom character body texturing using images from Shopify's Image API based on equipped clothing.

VOLTCRAFTER VR TRAINING - Vancouver Community College / *Unity, C#*, *Jan 2024 - Aug 2024*

- Implemented 30+ electric battery replacement tutorials with realistic grabbable components, animations and haptic feedback.
- Built Mission Manager and Hand Detector framework with OOP to improve development workflow by reducing code repetition across multiple scenes.
- Conducted academic research with 12 participants directly from VCC to determine the effectiveness of virtual reality training and considerations in VR development.

The Last Custodian / *Unity, C#*, *Jan 2024 - Apr 2024*

- Developed three platforming stages and two puzzle stages using the Corgi framework in Unity providing users with intriguing and mysterious atmospheres as they explore.
- Implemented user inventory system for storing key items and powerups, and enemy AI that responds based on environmental changes.
- Combined point and click puzzles with platforming problem solving to give users a distinct experience from traditional point and click puzzles.

C++ 3D Game Engine - Personal / C++,

Jan 2023 - Feb 2024

- Built an efficient software 3D renderer using only the Windows API and C++ standard library with matrix library implemented from scratch.
- Applied concepts from computer graphics such as linear transformations, graphic pipelining and pixel shading using object oriented programming to keep game components organized, decreasing development times by 25%
- Implemented multithreaded and parallel execution routines for graphic routines and used a difference-based image rendering system, allowing up to HD output and up to 100K polygons.

Plant Scan - AvaGrows Project / Node.js, Express.js, ML/CNN,

May 2022 - Aug 2022

- One of the 5 selected groups out of 20 to undergo a employer project for the company AvaGrows.
- Developed using HTML, CSS, JavaScript and utilized a custom Postgres Elephant.SQL server deployed using Heroku.
- Designed a web application with a team of 5 to capture, store and display information about various plants captured using a Convolutional Neural Network REST API.

Skills

- **Languages:** C, C++, C#, Python, Powershell, Unix bash, HTML, CSS, JavaScript, TypeScript, Java, Swift, XCode
- **Frameworks:** Unity, Node.js, Express.js, React.js, Next.js, SQL, Pandas, NumPy
- **Technologies/Tools:** Active Directory, SCCM, Microsoft Exchange, ManageEngine, Veeam, Git, Jira, Cypress (E2E)
- **Methodologies:** Scrum, Agile, ITIL, Kanban

Awards & Honours

2024 Gerri Sinclair Award

Sept 2024

Centre for Digital Media

- Innovative use of VR to revolutionize automotive technology training exemplifies the forward-thinking, impactful solutions that this award seeks to recognize.

Best Developer Award - Game of Apps Season 2 [2019]

Apr 2019

Game of Apps

- Through exemplary work and attempting to implement features beyond of what is taught in Season 2 (such as implementing notifications and persistent data in Swift)

Other Experience

Computing Science Peer Tutor

Jul 2022 - Jan 2023

Simon Fraser University

- Assisted and helped students that are struggling with course concepts and coursework and provided guidance and debugging help when appropriate.