

# Brandon Kong

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## SKILLS

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Coding Languages Python, TypeScript, Java, JavaScript, C, C++, SQL, NoSQL, HTML, CSS  
Frameworks Next, React, Express, Langchain, TensorFlow, PyTorch, OpenCV, Scikit-learn  
Tools OpenAI, MongoDB, Supabase, Git, Bash, WSL, VS Code

## WORK EXPERIENCE

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### Adanomad

AI Full Stack Software Engineer | *Python, TypeScript, OpenAI, Next.js, Supabase*

Jan 2025 - Present

Hamilton, ON

- Built a WebSocket-based UI for real-time call handling, optimized requests with **concurrent pooling**, handling up to **200** simultaneous users.
- Designed and implemented a **RAG+LLM** solution that automates workflows, reducing latency by **80%**.
- Integrated a dynamic agentic tool system using LangChain and RESTful architecture, enabling **AI agents** to interact with external services like DALL-E and Gemini.

### UW Visual Image Processing Lab

Software Developer | *Python, C++, CLI, .NET*

May 2024 - Aug 2024

Waterloo, ON

- Optimized a **region growing** and edge penalty-powered image segmentation tool, increasing classification accuracy by **20%**.
- Developed Python preprocessing scripts, boosting application speed by **200%**.

## PROJECTS

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### Neural Net | *Python, NumPy*

- Built a fully functional neural network from scratch using only NumPy, capable of classifying MNIST digits with high accuracy, implementing forward propagation, backpropagation, and optimization.

### JARVIS | *Python, SQLite*

- Deployed a Python-based **AI agent** with context-aware learning, enabling adaptive responses.
- Integrated RAG to provide intelligent, real-time responses, enhancing customer engagement and optimizing user experience through continuous learning.

### AI-Powered PDF Searcher | *Typescript, React, Flask*

- Built a Flask API to extract images from PDFs and perform embedding-based image search using **cosine similarity**, achieving **99.9%** accuracy.
- Integrated React front-end with Flask API to enable text and image search functionality PDFs.

### CLIF | *Python, OpenCV, MediaPipe, SciKit-learn*

- Programmed a real-time sign language interpreter in Python using OpenCV and machine learning, achieving **100%** accuracy on test cases.
- Leveraged MediaPipe and SciKit-learn to implement and enable accurate two-hand gesture detection.

## EDUCATION

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### Honours Bachelor of Computer Engineering 2028

- Relevant Courses: Digital Computers, Linear Algebra, Algorithms and Data Structures