

Aubrey Carter

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EDUCATION

Wilfrid Laurier University
Honours Bachelor of Computer Science

Waterloo, ON
May 2027

TECHNICAL SKILLS

Languages: Python, C++, C, C#, TypeScript, JavaScript, ASM
Frameworks: Next.js, React, Node.js, PyTorch, AWS Lambda, DynamoDB, Firebase
Libraries and Tools: IDA Pro, WinDbg, Vercel, OpenAI, Shadcn, VsCode, Cursor, Git

EXPERIENCE

Software Engineer Spet 2024 – Present
CVRVE Remote

- Developed an API dashboard and comprehensive documentation using **Swagger Docs** and **Next.js**, enabling real-time interaction with data and analytics, enhancing data accessibility and improving user experience.
- Designed our jobs platform using **Figma** and **Shadcn**, resulting in a successful launch to over **50k** users.
- Led cross-functional team collaborations to define product features, prioritize development tasks, and ensure alignment between the team, resulting in a successful launch of several key features.

Software Engineer Fellow July 2024 – Sept 2024
Headstarter Remote

- Built 5 AI apps and APIs using NextJS, Open AI, Pinecone, StripeAPI and Firebase
- Developed projects from design to deployment leading 4+ engineering fellows using MVC design patterns
- Coached by Amazon, Bloomberg and Capital one engineers on Agile, CI/CD, Git and microservice patterns

Application Engineering Intern May 2024 – Aug 2024
Cleanfix North America Stratford, ON

- Reverse-engineered the fan drive for **JD-S Series** combines, enhancing performance and reducing downtime
- Modeled a complete building expansion. Improving flow and facilitating seamless integration with existing building
- Utilized **3D** scanning technology to capture and analyze complex geometries, enhancing precision and capability

Application Engineering Co-op June 2022 – Aug 2023
Cleanfix North America Stratford, ON

- Engineered multiple production workstations, collaborating with the head branch in Germany to develop a hydraulic hose assembly line. Optimized manufacturing processes and ensured efficient use of resources.
- Designed and supplied custom kits for unique customer machines, collaborating closely with clients to understand their specific requirements, resulting in the successful sale of 2-4 customized kits daily.

PROJECTS

FlashFlow | *Next, AWS, Vercel*

- Developed an AI Service that auto-generates flashcards from PDFs and highlights key study material for students.
- Optimized a clean Next.js frontend and implemented **AWS S3** for file uploads, improving document processing.
- Made a AI chat-bot utilizing **OpenAI** to generate flashcards for users saving hours of time per session for students.

Windows Kernel Driver | *C, C++*

- Developed a kernel driver to manage shared memory spaces, enhancing communication between **UM** and **KM**
- Enhanced system stability with robust memory cleanup procedures, ensuring zero memory leaks and maintaining consistent performance in long-running operations.

Tetris AI | *Python, Torch*

- Utilized Python for game logic and **OpenCV** for rendering. Implemented real-time player interaction and visual game state updates, enhancing player engagement and providing a visually appealing gaming experience.
- Developed a **PyTorch**-based training module to teach a neural network optimal game strategies through gameplay, allowing the AI to autonomously improve and make more strategic decisions over time.

LEADERSHIP

Vex Robotics June 2021 – Present

- Mentor for 4 teams (**50+** students). Teaching Design, CAD, Autonomous code, leadership, teamwork, and more.