DAVID CHARLES-DANIEL

Edmonton, Alberta

📞 587-594-6476 ✉ diepreye@ualberta.ca 🔗 diepreyecd ⚙ davephoenix360

Technical Skills

Languages: HTML, CSS, JavaScript, Typescript, Python, Bash Scripting, C, C++, C#, .NET, Java, SQL, 3ds Max MaxScript

Developer Tools: AWS, Docker, Git/GitHub, Google Cloud Platform, Android Studio, Firebase, Linux

Technologies/Frameworks: React, Next.js, Flask, WordPress, Material UI, Android, JUnit/Espresso, REST APIs

Education

Bachelor of Science in Computer Engineering (Software Option) — **Expected: May 2027**

University of Alberta — *4th Year*

Completed Academic Terms: 8 — Completed Coop Work Terms: 3 of 5

Availability: May 2026 – Dec 2026 — Work Eligibility: 8 months

Relevant Coursework: CMPUT 301 (Android Development), CMPUT 379 (Operating Systems), ECE 322 (Software Testing), CMPUT 291 (Databases), CMPUT 250 (Game Development)

Experience

DevOps / Software Engineering Intern — **Jan 2025 – August 2025**

Goodmorning.com — *Edmonton, Canada*

- Engineered features and automation in a large-scale **WordPress/PHP** and **PostgreSQL/MySQL** multi-branded system, including reordering functionality, shortcode enhancements, and branded template fields, improving content management efficiency for multiple teams
- Designed and optimized complex **SQL** queries and **API** payloads, reducing latency by 20–30% across core endpoints and enhancing database performance
- Built a scalable Google Ratings integration using **AWS** Lambda + **Google Cloud** APIs, establishing the baseline for future cloud-based data ingestion workflows
- Developed a Schema Difference Checker (CLI tool) in **Python** and **Bash**, enabling automated detection of live to dev database inconsistencies and Slack alerting, improving reliability of deployments
- Designed and implemented a dynamic product filtering system with optimized algorithms, cutting compilation time by nearly 50% (1320 ms → 750 ms) and delivering Amazon/IKEA-style user experience for e-commerce sites
- Spearheaded migration from Smartsheet → Google Sheets, extending **Google Apps Script** for protected ranges, row operations, and version-control-like functionality, empowering non-technical teams while preserving data integrity
- Collaborated with cross-functional teams (frontend, DevOps, leadership) in **Agile** workflows, consistently delivering ahead of deadlines and working with peers on code optimization and system design

Software Engineering Fellow — **July 2024 – August 2024**

Headstarter AI — *Hybrid*

- Selected as a fellow to participate in a global program, implementing **LLMOps best practices**, **collaboratively** building 5+ AI applications and APIs using a wide range of technologies, including **NextJS**, **OpenAI**, **Groq**, **Langchain**, **Pinecone**, and **Stripe API**
- Coached by engineers from Amazon, Bloomberg, and Capital One on **Agile**, **CI/CD**, **Git**, and **microservice patterns**, resulting in improved software development practices and reduced deployment times
- Optimized codebases through implementation of best practices in Git workflows and peer code reviews, reducing technical debt by 15% and improving overall code quality and maintainability

Software Developer Intern — **May 2024 – August 2024**

University of Alberta — *Edmonton, Canada*

- Built a 3D construction project planning software using **C#**, **3ds Max**, and **Maxscript**, providing actionable insights on project phases and improving project visualization for stakeholders
- Developed and implemented an efficient crane path-planning **algorithm**, expediting the design and procurement phases of construction projects, resulting in a 15% reduction in planning time
- Exhibited proper time and project management while designing effective solutions, meeting all project deadlines and improving team efficiency by 20%

Front End Developer Intern   **August 2022 – December 2022**
Harveyteck Web Resources   *Port Harcourt, Nigeria*

- Developed 7 fully responsive websites with **HTML**, **CSS**, **Bootstrap**, and **Javascript** learning directly under one of Harveyteck's senior full-stack developers
- Incorporated **Netlify** for web hosting and data handling over 12 weeks, **Git** and **GitHub** for version control, and to visualize **collaboration** with my mentor and team lead

I.T. Management Intern   **August 2022 – December 2022**
Ogeyi Place Hotel and Resorts   *Port Harcourt, Nigeria*

- Diagnosed and resolved IT issues for 100+ clients in **Win10** environment, achieving 85 percent success rate. Reduced downtime by 20 percent, boosting productivity.
- Assessed and troubleshot server problems caused by malware attacks, email spoofing, and phishing, reducing the number of incidents by over 50 percent.
- Assisted IT staff with various tasks, maintaining a 100 percent success rate, managed **PMS database**, processed paperwork using **Microsoft Word** and **Excel**, and handled client inquiries.

Projects

Streamer University (CMPUT 250 Team Project)   **Dec. 2025**
Unity, C#, JSON/CSV, Git

- Built a 2D visual-novel-style, stats management game in Unity with an event-card system supporting branching outcomes, flags, and fame/stress stat deltas
- Implemented and integrated multiple minigames into the main progression loop, connecting gameplay results to narrative and player stats
- Collaborated in a multi-developer team as the Lead Programmer and Producer using Git workflows, playtesting, and iterative balancing for a gold release

FairDraw (CMPUT 301 Android App)   **Dec. 2025**
Android (Java), Firebase Firestore/Storage, Espresso, JUnit

- Developed a multi-role Android application (Entrant/Organizer/Admin) supporting event creation, waitlists, and lottery-based selection workflows
- Integrated Firebase Firestore and Storage for user data and media handling; implemented QR-based flows and location-aware validation features
- Wrote automated tests with Espresso and JUnit to validate UI flows and core logic against course user stories

Operating Systems Labs (CMPUT 379)   **Fall 2025**
C, Linux, Concurrency, Memory Management

- Implemented low-level operating system components in **C** under **Linux**, working close to hardware abstractions including processes, threads, and virtual memory
- Designed and analyzed synchronization mechanisms using **semaphores**, **mutexes**, and **compare-and-swap (CAS)**, reasoning about critical sections, deadlocks, and race conditions
- Built paging and virtual memory simulations, performing address translation, page table lookups, and **TLB hit/miss analysis** to evaluate performance trade-offs
- Applied OS scheduling and resource-allocation concepts to prevent deadlock, including circular-wait avoidance strategies and correctness reasoning
- Debugged and validated concurrent programs using systematic testing and instrumentation, strengthening understanding of non-deterministic execution and synchronization correctness

Bullying Classifier Model (Hackathon Project)   **Feb. 2025**
PyTorch, Hugging Face Transformers, sckit-learn, Pandas, Numpy, Kaggle, Jupyter

- Developed and fine-tuned a BERT-based NLP classifier to detect bullying and harmful language in social media text, achieving robust accuracy on test datasets
- Built and tested the model in Python using PyTorch, Hugging Face Transformers, scikit-learn, Pandas, NumPy, and Jupyter Notebooks for experimentation and evaluation
- Designed the architecture for real-time integration with Discord bots and potential vision-based models for camera inputs, enabling multi-modal bullying detection
- Implemented evaluation pipelines with metrics (precision, recall, F1-score) to ensure model reliability and reduce false positives in live environments

LookMate   **Aug. 2024**
React, Nextjs, Typescript, OpenAI API, AWS, Vercel, Git

- Developed a personalized AI-powered style assistant using **React**, **Next.js**, and **TypeScript**, integrated with **OpenAI API** and **AWS Lambda** for outfit suggestions
- Deployed on **AWS** and **Vercel**, providing a seamless user experience with weather-aware recommendations and a community for sharing trends

MemorixAI   **Aug. 2024**
React, Nextjs, Typescript, Langchain and Groq API, Firebase, Vercel, Git

- Developed an AI powered flashcard web app using **Llama 3** from **Groq** as the base model in a team of four where I acted as an **AI Engineer** handling the **REST API**
- Handled the multi-modal input feature and the backend structure of the app using **Langchain APIs** and using **RAG Framework**

Keepr App   **Aug. 2024**
React, Nextjs, Typescript, OpenAI API, Firebase, Vercel, Git

- Developed a smart pantry management app utilizing **Firebase** as cloud storage
- Added a recipe generation feature powered by **OpenAI** model to give unique recipes with the user's current pantry stock

Guide Bot   **January 2024**
Python, C++, Google Maps API, OpenRoutes API, Arduino, Git

- Led a 4-member team in the development of an **Arduino UNO**-powered robot using **Python** and **C++** aimed at assisting visually impaired individuals in navigating both indoor and outdoor environments
- Engineered the outdoor navigation functionality of the guide bot utilizing **Google Maps** and **OpenRouteService APIs**, ensuring precise movement between saved locations across Canada

UAlberta Student Assistant   **Nov. 2023**
Python, Javascript, React, Django, SQLite, Flask, Git

- Spearheaded a 4-member team initiative to develop a comprehensive web application using **HTML**, **CSS**, **Python**, **Nodejs**, **React**, and **SQL**, aimed at providing essential academic assistance to fellow university students
- Engineered dynamic resources feature leveraging the **Google Books API** and Python-based web scraping techniques with **Flask**, **Selenium**, and **BeautifulSoup** to compile an extensive database of relevant books, courses, course-related events and YouTube videos tailored to student coursework