Kyle Deng

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Education

Carleton University Ottawa, ON

Bachelor of Engineering in Software Engineering (CGPA: 10.33/12.0) *Expected Graduation Date: April 2027*

- Relevant Coursework: Object-Oriented Software Development (Java), Algorithms & Data Structures (Python), Computer Organization & Architecture (Assembly), Software Development Project (Java), Introduction to Real-Time Systems (C), Operating Systems (C/C++)

Technical Skills

Languages: Python, C, JavaScript, HTML/CSS
Frameworks/Libraries: Pandas, NumPy, Scikit-learn, PyQt5, pyserial, PyYAML, React, Tailwind, PyTorch
Developer Tools: Git, GitHub, Vite, AWS Lambda, DynamoDB, SageMaker, Docker, Kubernetes, Jupyter Notebook

Experience

Electronics4All May 2025 – August 2025

Software Engineer Intern

- Developed a cross-platform Production Testing Tool in Python (PyQt5) with a four-panel GUI (Serial Connection, Component Selection, Test Dashboard, UART Console), reducing operator onboarding time by 50%.
- Programmed and validated 12 embedded command handlers in C, defining a standardized UART protocol to ensure consistent device–host communication.
- Automated component validation for 2 boards using YAML-defined test profiles, enabling both single-test and batch execution modes and reducing manual validation time by 80%.
- Engineered a robust UART communication system with configurable settings and a multithreaded design using QThread, enabling reliable real-time data exchange.
- Integrated structured results logging (JSON buffer + CSV export) with session IDs for each run, streamlining data handoff to QA teams and supporting future migration to MongoDB.

Projects

Personal Website | *React, Tailwind, Vite, AWS Lambda, DynamoDB, PyTorch, SageMaker, Docker, Kubernetes*

- Developing a responsive portfolio site with React, Tailwind, and Vite, structured with reusable components and React Router.
- Building serverless APIs on AWS Lambda + API Gateway for projects, contact form, and chatbot integration.
- Designing a single-table DynamoDB schema for fast queries on projects, contact submissions, and chat logs.
- Fine-tuning a DistilBERT model in PyTorch and deploying via SageMaker to power a personalized Q&A chatbot.
- Implementing a GitHub Actions CI/CD pipeline to automate builds and tests, Dockerizing the frontend for consistent deployments, and creating Kubernetes manifests to demonstrate container orchestration.

Heart Disease Predictor | *Python, Pandas, NumPy, Scikit-learn*

- Built and validated a heart disease risk prediction model using Python, Pandas, and Scikit-learn on a dataset of 1,025 patients, with full data preprocessing using NumPy.
- Achieved 85.24% training and 80.49% validation accuracy using Logistic Regression, demonstrating strong model reliability for real-world risk assessment.

Extracurriculars

NVIDIA Deep Learning Institute September 2025 – Present

Student

- Designed and trained a multi-layer perceptron (MLP) with two hidden layers, achieving 99% training accuracy on 27,455 images of the American Sign Language (ASL) dataset.
- Implemented a convolutional neural network (CNN) to classify ASL letters, improving validation accuracy by 12% compared to an MLP baseline.
- Enhanced model generalization by applying data augmentation (random crops, flips, rotations, brightness/contrast jitter), reducing overfitting and boosting validation accuracy by 7%.
- Built a binary classifier via transfer learning, retraining final layers of VGG16 to distinguish between a target subject (Bo) and other animals using only 30 training images.