AYDEN XU

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EDUCATION

CARNEGIE MELLON UNIVERSITY   2022-2025
– *Bachelor of Science in Information Systems + AI/CS minor*
Relevant Coursework: Functional Programming, Data Structures, Fundamentals of Programming, Intro to Machine Learning, Natural Language Processing, Application Design, Database Design, Linear Algebra, Discrete Mathematics, Probability Theory

WORK EXPERIENCE

CARNEGIE MELLON UNIVERSITY   Aug 2023-Present
AI Course Assistant   *Pittsburgh, Pennsylvania*
– Developed 5+ modules of curriculum, combining cutting-edge ML concepts including transformer based models, multimodal integration, and natural language understanding analysis for a research seminar being taught in Spring 2024
– Conducted a comprehensive evaluation of various chatbot development frameworks and platforms particularly Google DialogFlow, Botpress, and Microsoft Bot Framework to assess suitability within an educational context

LASTWALL NETWORKS   Jul 2023 - Aug 2023
Associate Software Developer   *Fredericton, New Brunswick*
– Enhanced risk-based authentication software precision to 80% by rigorously testing TypeScript code and analyzing user data with SQL, encompassed user keystroke cadence, identifying bot behaviors, and assessing IP and hardware familiarity
– Achieved universal UI responsiveness across devices using React, incorporating flex/grid layouts and relative sizing
– Collaborated in Agile cross-functional team sprints, ensuring NIST compliance and increased efficiency by 20%

SKILLS

LANGUAGES/FRAMEWORKS: Python, C, React, Flutter, SQL, HTML, Tailwind CSS, Typescript, Java, Swift, Streamlit, Next.js
TECHNOLOGIES: Git, SQL(Postgres), Node.js, Xcode, AWS Cloud Services, Langchain, Hugging Face, Figma, Adobe Photoshop

PROJECTS

TRANSFORMER-BASED QUESTION & ANSWER GENERATOR   Aug 2023 - Present
– Leveraged unified text-to-text transformer (T5) model with Python to generate contextualized embeddings and convert tokenized texts to numerical vectors capture meanings within context of documents utilizing SQuAD dataset
– Fine-tuned critical model hyperparameters to optimize model's performance in generating accurate questions and answers for a given context, with performance of model being evaluated through EM, F1, BLEU scores

GENAI SHOWCASE | Diagram | Github   July 2023
– Applied Langchain as an orchestration framework to integrate GenAI models and APIs to create unique multi step functionalities
– Adopted GPT-4's function calling capabilities to translate user inputs into structured data, exercised prompt engineering techniques to obtain desired model responses, and presented project frontend with Streamlit

AMPLIFY WEB | Github   June 2023
– Full-stack Next.js app with CRUD capabilities, using Amplify for data modeling, Cognito for authentication, and S3 for file storage

PENGUIN SHOOTER | Demo | Code   Dec 2022
– 2D Python game incorporating Tkinter for graphics, pathfinding algorithms, projectile motion, and object oriented programming

ECOEYE APP | Demo   May 2021
– Employed Flutter for a multi-platform frontend, integrated Google Image and IBM Watson APIs to label and classify various waste items through uploaded images, and utilized Firebase as database for storing snapshots of categorized waste items

LEADERSHIP

WESENSE YOUTH LEADER   May 2020- Aug 2022
– Orchestrated several community events at intersection of environmental sustainability and innovative technology, resulting in reutilization of 284 pounds of recycled materials and garnering active participation from over 1500 attendees
– Selected as 1 of 10 teams nationwide for the President's Environmental Youth Award (PEYA)