Kevin Cushing

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EDUCATION

Northwestern University, The Graduate School, Evanston, IL — Expected March 2025
Master of Science in Computer Science
GPA: 4.0
Thesis: *A Design and Implementation of a System for Fact Checking.* Advisor: Kristian J. Hammond

Cornell University, College of Engineering, Ithaca, NY — May 2022
Bachelor of Science in Computer Science
Magna Cum Laude, with honors in Computer Science
Minor: Mathematics
GPA: 3.86

RESEARCH EXPERIENCE

Graduate Researcher — January 2024-Present
Professor Kristian Hammond, Northwestern University, Evanston, IL
- Fine-tuned and experimented with language models on text-to-SQL tasks to improve the automation of data analysis and report generation for the Satyrn project in the C3 Lab
- Developed a system to generate text-to-SQL datasets from databases of various domains (paper coming soon)

Undergraduate Researcher — September 2021-May 2022
Professor Madeleine Udell, Cornell University, Ithaca, NY
- Investigated the effects of covariate shift on the performance of machine learning models with a small team
- Designed a general framework for comparing active learning strategies on benchmark datasets

WORK EXPERIENCE

Data Engineer — September 2022-September 2023
Somatus, McLean, VA
- Pioneered development of CI/CD processes using Azure Devops to streamline testing and deploying software in an agile environment
- Led adoption of Kubernetes and Kubeflow for jobs involving ML model training and inference on large datasets
- Integrated data streams from new vendors to drive more timely treatment of patients
- Migrated Python scripts to run daily and monthly jobs automatically in the cloud using Azure Function Apps, VMs, and Kubernetes Clusters

Applications Development Intern — June-August 2021
MarketAxess, New York, NY
- Created an API for testing price calculations of fixed income instruments using Java and SpringBoot
- Collaborated in an agile environment to implement and improve price calculations for fixed income instruments

Founding Partner — August 2020-January 2021
Culibra Tech Solutions, Phoenixville, PA
- Led a small team to consult and develop software
- Created an online classroom environment to allow students and teachers to play math games together during COVID

ACADEMIC PROJECTS

A Design and Implementation of a System for Fact Checking (M.S. Thesis) — January-December 2024
- Designed a system to fact check text against internet sources using multiple machine learning models and provide a report with relevant supporting or refuting sources for each claim made in the original text
- Iteratively improved the system through experimentation with different models and approaches

Minerva (Course Project) — April-May 2024
- Created a chat bot to recommend classes using RAG to retrieve information on Northwestern course offerings
- Implemented a simple representation of users including their interests and topics of expertise to improve the dialogue between the chat bot and users

Backgammon Bot (Practicum Project) — September-December 2021
- Trained a deep learning model to play backgammon using temporal difference learning similar to TD-Gammon
- Implemented a backgammon game to allow for model self-play and for users to play each other or against our model

TECH STACK

Azure, AWS, Python, PyTorch, SQL, Docker, Kubernetes, Kubeflow, Spark, Databricks, Java, C, C++, OCaml, JavaScript, Spring Boot, Angular.js, Socket.io, Node.js, Express.js, MongoDB, CSS, Sass, Linux, Lisp, MATLAB