Ayaan Pupala

ayaanpupala2025@u.northwestern.edu • 217-377-7889 • github.com/Ayaan-P

EDUCATION

Northwestern University — Illinois, USA
Master of Science in Artificial Intelligence — September 2024 - Present

University of Illinois Urbana-Champaign — Illinois, USA
Bachelor of Science in Computer Engineering — August 2017 - December 2020

Related Coursework : Artificial Intelligence, Data Mining, Deep Learning, Algorithms, Applied Parallel Programming, Probability, Computer Systems Engineering, Computer Organization and Design, Data Structures, Software Engineering

SKILLS

- **Front-End:** JavaScript, jQuery, JSP, Angular, React, HTML, CSS, Power Apps
- **Back-End:** Django, Node.js, SQL, MySQL, MongoDB, Spring Boot, Postgres, Unit-Testing
- **Languages:** C, C++, C#, Java, Python, Ruby, x86 Assembly, CUDA, Verilog
- **Tools:** Unity, Arduino, Android, Pytorch, Git, JSON, Avro, AWS, Docker, Maven, Gradle, Azure, Power Automate
- **Operating Systems:** Windows, Linux, Mac OS, Ubuntu, Unix
- **Certifications**: AWS Certified Developer Associate, Public Trust Clearance
- **Soft Skills**: Toastmasters Public Speaking, Alpha Phi Omega Volunteering

WORK EXPERIENCE

Epigeneres Biotech — Mumbai, India
Machine Learning Engineer — October 2023 - August 2024

- Developing **Machine Learning** and **Deep Learning** models for the early detection of **cancer** using **Tensorflow** and **Python**
- Designing and optimizing pipelines to process human gene sequence data using **Python**

Karsun Solutions LLC — Virginia, USA
Full-Stack Software Engineer — March 2021 - September 2023

Karsun Innovation Center

- Developing a custom Co-Pilot like VSCode extension using the **GPT-4 API** to assist developers working for federal clients
- Constructed a **RESTful Spring Boot** backend and complete test suite for a client demo app using **Java** and **GPT-4**
- Constructed containerized **Postgres** databases with **SQL** scripts and **Docker** for a geolocation microservice
- Designed API calls to perform CRUD operations on said databases with respective unit tests and integration tests
- Managed and assisted interns in developing applications with **Angular** to assist with the Karsun Interview process
- Developed an App with **Angular**, **Node.js** and **AWS Amplify** to streamline internal group creation and administration

United States General Services Administration (Client)

- Modernized a **Python** script to create a **Drupal** form based on a given CSV template to account for new requirements
- Implemented a multi-select feature that lead to a 10x reduction in questions for users and more efficient data collection
- Analyzed the impact that the updates had on existing **SQL** and **Tableau** views according to business requirements
- Optimized **Python** scripts that scan government websites. reducing runtime by 50% thereby doubling the frequency of scans
- Built in **AWS SNS** notifications in the above scripts for completion and failure

Junior Engineer

United States Federal Aviation Administration (Client)

- Developed, operated and maintained FAA Vaccination Documentation Web app used by 50k users using **Angular**
- Engineered a backend notification system using **JavaScript** and **Python** for the Contact Tracing App for the FAA
- Utilized **Python Data Science** libraries to provide the team with KPIs on adoption and usage in nightly batches
- Designed a Support-Hub to provide a launch-point for other developers to get started with Microsoft Power Platform

Network International LLC — Dubai, UAE
Software Engineering Intern — May 2018 - July 2018

- Parsed through files using **Java** to extract credit card information to store in a relational **MySQL** database
- Optimized extraction of customer data using internal tools and **Python** leading to a performance increase of 20%

PROJECT EXPERIENCE

Game Development — Illinois, USA

- Lead Developer of a 2D open world RPG based on monster battling, by utilizing **C#** and the Unity game engine
- Built an entity spawning system that interfaces with a **JSON** database containing the monster information
- Implemented an **AI** pathfinding algorithm for entities to patrol and attack the player when nearby

Android App Development — Mumbai, India

- Developed an application using **Android Studio** to fine-tune control of a quadcopter using Bluetooth technology
- Engineered error correction techniques such as Proportional-Integral-Derivative to improve stability by 37%