Agyemang-Prempeh Jabez

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Education

Howard University **Aug. 2021 – May 2025**
Bachelor of Science in Computer Science *Washington, DC*

Technical Skills

Relevant Coursework: Natural Language Processing, Artificial Intelligence , Advanced Data Structures, Cloud Computing, Mobile App Development(Android and iOS), Software Development Studio,Unix Lab, Machine learning, Applied Data Science
Developer Tools/Technologies : Distributed Version Control, REST APIs,React Native, Flask, Android Studio, Xcode, Relational Schema (Back4App), Google Cloud Storage, AppEngine, GCP, Requirements Engineering and Technical Design, Full Stack Development, Web Development, Continuous Integration/Continuous Deployment (CI/CD), AWS

Experience

Research Assistant **November 2024 - Present**
Machine Translation and Named Entity Recognition - SemEval | *Python, Machine Learning, NLP* *Washington, DC*

- Collaborating on the development of machine translation systems to handle challenging named entities, including rare, ambiguous, or culturally specific references, in multilingual translation tasks.
- Designing and implementing preprocessing pipelines to enhance translation quality by identifying and disambiguating named entities using domain-specific linguistic rules and machine learning techniques.
- Fine-tuning and evaluating translation models across nine language pairs, focusing on real-world scenarios such as book titles, movie names, and other cultural entities.

Apple **May 2024 - August 2024**
Software Engineering Intern - Find My | *Swift, C++, Python, Embedded Systems,Concurrency* *Cupertino, California*

- Designed and developed a Swift-based serial communication library to facilitate interaction with embedded systems used by the Find My team.
- Implemented concurrency management techniques to address critical issues such as race conditions, ensuring thread-safe operations and maintaining reliable library performance under parallel workloads.
- Authored C++ sketches for hardware systems, enabling precise operations and seamless integration with a Swift-based serial communication library for embedded system automation.

Apple **May 2023 - August 2023**
Software Engineering Intern - Find My | *Swift, Python* *Cupertino, California*

- Engineered comprehensive automation scripts for rigorous validation of "Find My" features, ensuring compliance with specifications and optimal performance across varied scenarios.

Meta **May 2022 – August 2022**
Meta University Software Engineering Intern *Seattle, Washington*

- Architected and developed robust Android applications using Java, leveraging Parse Back4App Database SDK and various API integrations to enhance functionality and user experience.

Projects

Advanced X-ray Image Analysis and Condition Prediction | *Python, PyTorch, Machine Learning* **April 2024**

- Fine-tuned a ResNet-18 deep convolutional neural network to accurately classify and predict multiple pathological conditions from X-ray images, including Pleural Effusion, Pneumonia, Pneumothorax, and Atelectasis.
- Employed image preprocessing techniques, including normalization, data augmentation, and geometric transformations, to enhance model training efficacy and robustness, significantly improving prediction accuracy and generalization across diverse datasets.

FoodChoice - Restaurant Tinder | *Swift, Objective-C, Google Places API, Parse, iOS Development* **April 2023**

- Developed an iOS dining decision app, FoodChoice, utilizing Swift and Objective-C to create a highly responsive and interactive interface for restaurant selection, inspired by Tinder's swipe-based interaction model.
- Integrated Google Places API for fetching real-time data on local dining establishments, implementing advanced filtering and sorting algorithms to enhance user experience and ensure accurate and personalized recommendations.
- Engineered a collaborative decision-making feature using a custom-built heuristic algorithm to aggregate multiple user preferences and constraints, optimizing group satisfaction through efficient decision-making processes.

BeReal Clone App | *Swift, Objective-C, iOS Development, Git* **March 2023**

- Engineered a scalable clone of the BeReal social media platform, leveraging Swift and Objective-C to replicate core functionalities such as real-time photo sharing and dual-camera usage.
- Implemented MVC architectural patterns to ensure a well-organized code structure, promoting scalability and maintainability, aligned with industry best practices.
- Integrated Apple's Core Location services to enable geotagging, and utilized AVFoundation for media capture and processing, enhancing user interaction and experience through real-time adjustments and location-based features.

PeerRequest | *Java, Parse, Android Studio, FusedLocationAPI, Cloud Code* **August 2022**

- Developed a robust Java-based Android app, PeerRequest, facilitating task creation and viewing, with a feature allowing users to request task completion from other users.
- Incorporated advanced mapping functionalities using Google Maps and FusedLocationAPI, showcasing nearby tasks as interactive markers on a map to enhance user experience and spatial awareness.
- Implemented dynamic chat and notification features using ParsePush and Firebase Messaging, enabling real-time communication and updates between users, fostering a highly interactive user environment.