Layaal Khellah

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Education

Portland State University | Portland, OR

- **M.S. in Computer Science** | **GPA:** 3.95   Sept. 2024 – March 2026
  - Teacher's Assistant – 2 terms
- **B.S. in Computer Science** | **GPA:** 3.97   Sept. 2020 – June 2024
  - Summa Cum Laude
  - President's List – 8 terms

Relevant Courses: Artificial Intelligence, Machine Learning, Software Engineering, Algorithms, Data Structures, Computer Privacy,

Skills and Proficiencies

- **Software Development:** Python, C/C++, SQL, Java/TypeScript, HTML, CSS
- **Productivity:** Linux, Git, AWS, GCP, Visual Studio, MS Office
- **Soft Skills:** Time Management, Communication, Problem Solving, Adaptability

Professional Experience

Teaching Assistant | **Portland State University** | Portland, OR   Jan. – March 2025

- Unit Test Branching Strategy
  - Assessed students' unit tests and branching strategies, providing feedback on test design, mocking frameworks, and version control practices to reinforce industry-standard software testing principles
- Elements of Software Engineering
  - Reviewed and provided feedback on all phases of a term-long software project, including requirements, design, implementation, and testing, to ensure adherence to software development best practices

Computer Science Researcher | **BUILD EXITO** | Portland, OR   June 2022 – June 2024

OHSU: Clinical and Translational Research Institute

- Researched the utilization of existing ontologies to develop a comprehensive causal graph
- Developed a causal inference framework, focusing on quantifying disparities within a specific disease area by analyzing causal relationships in complex datasets using propensity score matching and structural causal modeling
- Co-authored a paper on "Systematic Comparison of Propensity Score Matching and Structural Causal Modelling for Clinical Applications: A Case Study in Albumin Treatment for Acute Kidney Injury (AKI) Patients" which was submitted to 2024 American Medical Informatics Association Annual Symposium

Portland State University: Speech and Hearing Sciences Aphasia Lab

- Contributed to the development of an automated tool for calculating acoustic measures in speech recordings from post-stroke patients with speech disorders, aiding diagnosis suggestions
- Developed Python scripts dedicated to processing and filtering speech data. Leveraged the capabilities of TextGrid and Montreal Forced Aligner libraries to extract crucial information from aligned ARPAnet phoneme files. These scripts played a pivotal role in extracting relevant data, performing calculations, and generating CSV files containing suggested diagnoses for each patient's speech file

Projects

WonderTix Ticketing System | Portland State University Capstone   Jan. 2024 – June 2024

- Developed an automated email system using Nodemailer and Google's SMTP
- Created backend infrastructure to support dynamic HTML email templates
- Implemented API endpoints to facilitate user opt-in processes

Movie Recommender | Portland State University   Jan. 2024 – April 2024

- Developed web application using **Flask** to fetch and translate trending movies via TMDB and Google Translate APIs
- Deployed application on **Google Cloud Run** with **Docker**
- Implemented secure API key management and environment variable handling

Chocoholics Anonymous | Portland State University   July 2020 – Sept. 2020

- Created scalable system using Python to manage medical information for multiple providers and clients
- Analyzed functional requirements, created design document, developed code, and tested SW applications

References Available upon request