

EHAAB BASIL

M.S Computer Science student graduating in Spring 2025

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EDUCATION

M.S. in Computer Science

🎓 GPA: 4.00/4.00

University of Maryland - College Park

📅 August 2022 – May 2025

B.S. in Computer Science

🎓 GPA: 3.40/4.00

University of Maryland - College Park

📅 August 2018 – May 2022

3x Dean's List, Minor in Business Analytics

EXPERIENCE

Software Development Engineer

Wardah Technologies LLC

📅 July 2023 – July 2024

📍 Dubai, UAE

- Directed the end-to-end development cycle of a scalable financial and ticket management platform for an airline GSA that streamlined operations for 100+ travel agencies by automating bulk ticket requisitions, payment approvals and reporting
- Developed a bulk ticket requisition system that integrated hierarchical approval workflows to reduce manual follow-ups by 40% and accelerate ticket issuance
- Implemented and integrated a comprehensive ticket management module with dedicated features for voiding, refunds, and debit memo conversions to facilitate a streamlined customer experience while upholding compliance with airline policy
- Developed a finance module that supported payment tracking across multiple methods (bank, cheque, cash), automated balance updates and alerts for overdue payments to enhance financial oversight and audit compliance
- Tech Stack: C# - .NET Framework – SQL Server

Research Assistant

MIND Lab @ University of Maryland

📅 Jan 2022 – May 2022

📍 College Park, MD

- Applied Machine Learning models to analyze patient-specific breathing signals, optimizing data pre-processing and feature engineering to improve accuracy in the detection of health-related variations
- Conducted extensive research centered on analyzing breathing patterns to help detect patient respiratory symptoms
- Tech Stack: Python - TensorFlow

RESEARCH

📄 Adaptive RL Policy Design with LLM Planning

- Created uncertainty-aware reinforcement learning agents that request human/LLM feedback when encountering novel obstacles, and implemented bootstrap ensembles for 90% obstacle detection accuracy and SSIM-based OOD detection that outperformed GradNorm by 40%.
- Tech Stack: Python – PyTorch – ChatGPT API

SKILLS

Programming Languages: Python - Java - C/C++/C#

- JavaScript - SQL - MATLAB - BASH

Libraries and Framework: PyTorch - TensorFlow - .NET - React.js - RESTful API

Cloud: AWS, Azure, Docker, Kubernetes, Heroku

Tools & Technologies: Linux/UNIX, Git, CI/CD Pipelines

PROJECTS

Amadeus GDS Automation Interface

- Led the reverse-engineering of terminal text patterns to extract passenger details (PNRs, names, passport details, flight and ticket numbers, fare classes, etc.) and added validation rules to flag discrepancies, leading to 99.8% accuracy rates
- Implemented multi-threaded parsing by leveraging data structures and algorithms to automate data extraction from concurrent terminal outputs, ultimately reducing manual intervention time by 97%
- Tech Stack: C# - .NET – Regex – SQL

Musical Shoes – Interactive Gaming System

- Developed a 2-player competitive game mode for smart insoles that translated foot pressure into real-time music and gameplay using Force Sensitive Resistors (FSRs), an ESP32 microcontroller, and WebSockets
- Programmed the ESP32 to read analog values from insoles and transmit pressure data as JSON payloads via WebSockets for real-time processing
- Tech Stack: Arduino (C++) – WebSockets – JavaScript – HTML – CSS – ESP32 – FSRs – 3-D Printed Components

Pretty Good Privacy RESTful API

- Developed a RESTful API with Python, FastAPI, JavaScript, and Heroku that optimized performance and scalability
- Enhanced data privacy by +12% by implementing a feature generating public and private key pairs for secure communication
- Designed a secure encryption mechanisms that enabled the server to retrieve client requests and encrypt messages using dynamically generated public keys
- Tech Stack: Python - FASTAPI - JavaScript - Heroku

LANGUAGES

English
Urdu
Arabic

