Yaseen Ahmed

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EDUCATION

The American University in Cairo | Cairo, Egypt Expected Graduation Jan 2025

B.S. - Computer Engineering, Dean's list, Highest Honors *CGPA: 3.92*

Coursework: Data Structures, Algorithms, OOP, Software Engineering, Deep Learning, Computer Architecture, Computer Organization & Assembly Language, Discrete Mathematics, Linear Algebra, Calculus, Probability & Statistics, Networks Application Design, HCI

Virginia Polytechnic Institute and State University (Virginia Tech) | Blacksburg, VA Spring 2023 Exchange Semester

B.S. - Computer Science

SKILLS & TECHNICAL TOOLS

Languages: C/C++, Python, JavaScript, HTML/CSS, Java, Verilog

Technologies: Git, Microsoft Azure, AWS, React, Jupyter Notebook, Flask, scikit-learn, Tensorflow, Keras, Matplotlib, Librosa

EXPERIENCE

Software Development Engineer Intern | Microsoft *July 2022 - Aug 2022*

- Designed and implemented an end-to-end PII-redaction service for videos using Microsoft Azure, enhancing security measures
- Developed and refined a user-centric interface for the PII-redaction pipeline using Flask, HTML, and CSS (bootstrap)
- Conceived and engineered a unique timestamp-to-speech matching system using Azure's Cognitive Service (speech SDK)
- Constructed a real-time video-transcription module for PII utilizing Azure Cognitive Services

ML & Embedded Systems Intern | Siemens EDA *June 2022 - July 2022*

- Designed and assembled a radar sensor-to-Raspberry Pi system for continuous data collection and processing, improving data accuracy and reducing latency
- Developed a real-time frequency wave monitoring module in Python and fostered remote development via an SSH client, enhancing system accessibility
- Devised a machine learning model for classifying wave data with an impressive 97% accuracy, minimizing overfitting and underfitting
- Successfully deployed and triggered a classification model on AWS, leveraging data from an S3 bucket and training through AWS Sagemaker

ML Intern | Siemens EDA *July 2021 - Sep 2021*

- Developed a comprehensive end-to-end ML training pipeline for acoustic monitoring of machinery and equipment
- Designed and trained various models by extracting Mel Frequency Cepstral Coefficients (MFCCs) from audio data and passing them through a Convolutional Neural Network (CNN)
- Leveraged Python to implement a robust publish-subscribe Message Queuing Telemetry Transport (MQTT) communication system

SELECTED PROJECTS

Chest Radiograph Classification using Deep Learning | *Python, Tensorflow, Keras, Pandas, NumPy*

- Orchestrated the development of several deep learning models for precise classification of clinical conditions via chest radiographs, trained on Stanford's voluminous CheXpert dataset of over 200,000 patients' data
- Thoroughly analyzed model performance using an Area Under Curve Receiver operating characteristic approach and iteratively refined models to enhance classification performance
- Increased training performance by a substantial 26% by ingeniously designing and developing a unique neural network which harmoniously combines InceptionResNetV2 and a custom-created model

Multi-threaded Distributed Crazy 8's Game Server (Networks) | *Python, Docker, RESTful API, MongoDB, PyGame*

- Engineered a robust, multi-client Crazy 8's gaming server by implementing MVC architecture and multi-threading, each client assigned a unique controller, enhancing game concurrency and response time
- Incorporated the use of locks where necessary for thread-safety and to prevent data races and leveraged WebSocket protocol for real-time bidirectional communication, delivering a seamless, interactive user experience
- Established MongoDB connectivity through RESTful API, incorporated Docker for scalable environments, and implemented a concurrent GUI for simultaneous gameplay, enhancing server performance and user capacity

Pipelined RISC-V Datapath (Processor) |Verilog

- Successfully designed and engineered a complex pipelined RISC-V datapath utilizing a single memory
- Implemented all 40 instructions available in the RV32I base integer instruction set

LEADERSHIP & ACTIVITIES

- Treasurer of AUC's Business Association, Student Ambassador, Fundraising Manager, Speedcuber, Crossfit, Judo, and Soccer athlete