Mohammed Mowla

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Education

Stockton University Galloway, NJ
Bachelor of Science in Computer Science, Minor in Mathematics *Aug. 2020 – May 2024*
GPA: 3.79 | **Honors:** Stockton University Provost's Scholarship (4 Years)

Experience

Federal Aviation Administration June 2024 – Present
Student Intern - A.M.M.S. *Egg Harbor Township, NJ*

- Developed risk reduction tests for an Air Traffic Technical Operations iOS application, utilizing Appium and Python to ensure robust testing and enhance the app's reliability and performance.
- Led a team of interns in the development and implementation of an extensive organizational Wiki site using Confluence and Jira Integration to enhance the efficiency and productivity of the team.
- Conducted research on Large Language Models (LLMs) and their potential to accelerate Test and Evaluation (T&E) processes within the FAA

Federal Aviation Administration June 2023 – Aug. 2023
Student Intern - A.M.M.S. *Egg Harbor Township, NJ*

- Led the implementation of Appium automation within a compact test team an Air Traffic Technical Operations iOS application using Java, and concurrently documenting manual testing for web and iOS releases.
- Assumed co-leadership in a cohort project, providing guidance to team members in understanding and proficiently utilizing virtualized instances of Simulated Driver Radar Recorder (SDRR)
- Applied a virtualized Ubuntu shell environment via MobaXTerm to install, use, and gain a comprehensive understanding of the applications of SDRR and its ecosystem.

Research

Lake Fred Research Project Jan. 2023 – Nov. 2023
Stockton University - Math Research *Galloway, NJ*

- Gathered geospatial data from Lake Fred at Stockton University and applied the SciPy library, to perform a Convex Hull algorithm for Delaunay Triangulation to extract triangulation information.
- Employed Blender's Python API to transform 2K+ points into a triangulation of a 3D model of the lake which allowed for exporting the model into a 3D printable for better visualization and understanding of the lake bed
- Developed a website using Three.js, Vite, and Bootstrap to visually depict and interact with the 3D lake model, allowing users to view the surface and wireframe separately.

Projects

DCGAN Animal Image Generation | *PyTorch, Python, Computer Vision* April 2024 – May 2024

- Conducted preprocessing of images from both the Animal-10N and Kaggle Cats and Dogs datasets, preparing the data for image generation and ensuring optimal input quality for model training and analysis.
- Developed and trained several DCGAN models for both cats and hamsters, utilizing Batch Normalization for stability, ReLU for activation functions, and Binary Cross Entropy Loss as the loss function.
- Achieved significant results with the Kaggle Cats and Dogs dataset, trained the models for 1K epochs, and processed 12.5K cat images over 140+ minutes, resulted in notable improvements in image generation quality.

Desktop Inventory Application | *Java, Maven, Git, MySQL, JavaFX MVC, FXML* May 2018 – May 2020

- Streamlined inventory management for a small South Jersey business by developing a desktop application using JavaFX, FXML, Scene Builder, JavaMail API resulting in a more efficient process.
- Implemented CRUD functions for a MySQL database, that validated users to seamlessly manage inventory, enhance security, and reducing manual errors by a significant number
- Incorporated sortable tables for all tables through filters such as but not limited to product category, expiration and quantity to improve user experience.

Technical Skills

Languages: Java, Python, JavaScript, HTML/CSS, SQL (MySQL), PHP, C#
Frameworks: Node.js, TailWindCSS, Bootstrap, Svelte, WAMP, Apache Tomacat
Developer Tools: Visual Studio, IntelliJ, PyCharm, Git, VS Code, Eclipse, Blender, Maple, Angular
Libraries: Three.js, p5.js, NumPy, PyTorch, Matplotlib, SciPy, JFreeCharts, JUnit