Mehdi Mihir

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Education

Southern New Hampshire University **Sep. 2022 – April 2025**
Bachelor of Science in Computer Science | Honors *Manchester, NH*

Stony Brook University **Sep. 2020 – June 2022**
Bachelor of Science in Computer Science *Stony Brook, NY*

Experience

NYC Department of Transportation **Jun. 2023 – Aug. 2023**
Data Science Engineering Intern | Pavement Profile Project *New York, NY*

- Worked with city planners and civil engineers to digitize roadway deterioration modeling using Geographic Information Systems (GIS), increasing processing efficiency by 20x and prioritizing repair schedules through predictive analysis.
- Streamlined metadata organization and conducted advanced dataset querying to produce comprehensive summary reports and visualizations for the Postgres/PostGIS Asset Management Database (AMDB), enhancing inventory accuracy of spatial and non-spatial asset data by 15%.
- Engineered dynamic maps and interactive dashboards using D3.js, and developed geo-processing tools in Python with Bokeh, Pandas, and NumPy, resulting in a 30% reduction in data processing time and data analysis efficiency.

Bank of America **Jun. 2022 – Aug. 2022**
Software Engineering Intern *New York, NY*

- Developed and deployed predictive models using Python, TensorFlow, and Scikit-Learn, enhancing targeted marketing strategies through data analysis, resulting in a 15% increase in customer engagement.
- Developed and enhanced security protocols by implementing AES encryption using PyCryptodome and RSA encryption using the Cryptography library, effectively safeguarding sensitive customer data against potential threats.
- Collaborated with the cloud engineering team to successfully migrate legacy systems to AWS, utilizing EC2 for compute power, S3 for storage, and Lambda for serverless computing, which reduced operational costs by 20%.
- Contributed to the design and development of user interfaces for internal tools using React.js and Redux, improving the user experience for bank employees.
- Worked with the DevOps team to containerize applications using Docker and implement CI/CD pipelines with Jenkins, automating testing and deployment processes for faster and more reliable software releases.

Openwave Computing **Jun. 2021 – Aug. 2021**
Software Engineering Intern | QuikAllot – Field Service Management Software *New York, NY*

- Collaborated with senior developers to design and develop mobile UI screens for service workers and clients using Figma
- Designed and implemented client-side features such as task status tracking, history of bookings, and automated invoice generation using React.js, Redux, and Axios.
- Developed employer-side solutions including real-time GIS tracking for workers, inventory management, customer complaints handling, invoice automation, and payment processing.
- Designed and optimized database architecture in AWS RDS, built RESTful APIs using AWS API Gateway, set up authentication with AWS Cognito, and deployed the application to AWS using Elastic Beanstalk.
- Introduced unit testing using Jest, increasing code coverage from 0% to 40%, significantly improving code reliability.
- Utilized Jira for project management, accurately estimating timelines, managing tasks, and ensuring on-time feature delivery within an Agile framework.

Stony Brook University **Sep. 2020 – Jun. 2022**
Undergraduate Teaching Assistant *New York, NY*

- Mentored over 50 students individually, conducted office hours, and evaluated assignments and exams for more than 900 students enrolled in Data Structures and Algorithms & Introduction to Programming in Python.
- Created supplemental lecture materials with Google Colab Notebooks to reinforce key concepts.

Project

Fitness Tracker Dashboard | *Java, JavaFX, Chart.js, Google Maps API, Firebase*

- Developed a desktop application using Java and JavaFX to enable users to log workouts, track progress (duration, intensity, type of exercise, calories burned, and biometric data), and set personalized fitness goals.
- Implemented data visualization using Chart.js to display workout metrics and integrated Google Maps API for tracking.
- Utilized the TensorFlow Java API to implement machine learning algorithms (e.g., linear regression) for predictive analytics, forecasting future fitness trends and providing users with insights on weight loss and muscle gain.
- Integrated Firebase for real-time database and authentication, ensuring secure and instant access to user data.

Technical Skills

Languages: Python, Java, C++, JavaScript, TypeScript, SQL, Swift
Technologies/Frameworks: AWS, Linux, DynamoDB, Firebase, PostGres, GCP, React, MongoDB, Express, Angular, Node.js, jQuery, Git, Docker, Kubernetes, Terraform, Jenkins, JUnit, PyTorch, TensorFlow, OpenGL, Postman, Figma