Abhishek Shah

Youngstown, OH 44504 | +1-330-978-8465 | abhi.shah6336@gmail.com | My Portfolio Link

Objective

To leverage my hard and soft skills to excel in a challenging position within a reputable company, while utilizing my experience to drive the success of the organization. Continuously striving for professional growth and development, as evidenced by measurable metrics.

Education

Youngstown State University (YSU), Graduate School — **Youngstown, OH**
- *Master of Science* in Computing and Information Systems, GPA: 4.00/4.00 — December 2022
- *Data Analytics Certification* — May 2022

Youngstown State University (YSU), College of STEM — **Youngstown, OH**
- *Bachelor of Science* in Computer Science — December 2020
- Minor: Mathematics — GPA: 3.85/4.0

Technical and Software Skills

C++, C#, Java, Python, JavaScript, R, Marie, HTML, CSS, WordPress, ReactJS, NodeJS, SQL, Oracle, Pandas, NumPy, SciPy, Matplotlib, Scikit-learn, Jupyter, SAS, Git, GitHub, BitBucket, Unity3D, Blender, Visual Code, Tableau, PowerBI, Click Up, Excel, Latex, Linux

Organizational Experience

Snapbrillia, Inc. – Web Development Intern – Remote — **April 2022 – September 2022**
- As a self-starter, effectively collaborated with a team in an agile-based environment and actively participated in daily scrum meetings to report progress on assigned tasks.
- Showcased proficiency in collaborating with the design team to develop JavaScript, HTML, and CSS components for the b2c website and implemented them with logic utilizing the React JS framework, resulting in a seamless and efficient user experience.
- Effectively detected and resolved bugs across the b2b/b2c website, while managing wait time to ensure a smooth user experience.
- Followed a structured software development life cycle (SDLC) approach, incorporating continuous integration/continuous delivery (CI/CD) practices, leading to an efficient and effective software development process.
- Ensured code compliance with quality requirements by conducting comprehensive unit testing using Jest, achieving a 100% success rate, and resolving all reported bugs within an average of 24 hours to maintain an exceptional user experience.

Youngstown State University – Graduate Research Assistant – Youngstown, Ohio — **January 2021 – December 2022**
- Developed innovative and ethical driving simulation software using eye-tracking technology to simulate complex scenarios, demonstrating expertise in software development and ethical research.
- Won first place in the University of Queensland's Three-Minute Research Thesis competition by presenting cutting-edge research on ethical dilemmas in driving simulations, showcasing strong communication and presentation skills.
- Utilized waterfall methodology to manage SDLC, gaining hands-on experience in ethical research and software development.

Research & Thesis

Youngstown State University – Youngstown, Ohio — **January 2021 – December 2022**
 Drivers' Visual Focus Areas on Complex Road Networks in Strategic Circumstances: An Experimental Analysis (ADAS)
- Developed scalable and customizable stochastic simulation software to create realistic driving experiences, while analyzing the visual focus of over 20 drivers.
- Utilized C# Job System and Burst Compiler to distribute processing across CPU cores in Artificial Intelligence (AI) Traffic Controller script, resulting in 30% faster simulation times.
- Utilized statistical analysis to gather synthetic data on human gaze patterns to simulate sight perception for neural network training, resulting in an accuracy of 90% on real-world data.

Youngstown State University – Youngstown, Ohio — **August 2020 – December 2020**
 Imputation of Missing Values in Time Series Dataset
- Performed data pre-processing and data engineering techniques, such as data cleaning, feature scaling, and normalization, to prepare the time series dataset for analysis.
- Applied 12 different machine learning (ML) algorithms using Python, showcasing proficiency in the field.
- Successfully imputed missing data in 7 scenarios, resulting in a reduction of up to 30% in the root mean squared error (RMSE), highlighting the ability to analyze and recover valuable information in raw datasets.
- Used data visualization tools, such as Matplotlib and ggplot, to explore and visualize the dataset, and gain insights into the patterns of missing data.

Training and Certifications

Data Analytics (YSU), Cybersecurity Certification (CISCO), Database Offerings, Hadoop Fundamentals, ElastiCache Service Primer, Quantum Ledger Database Service Primer, Neptune Service Primer, Redshift Service Primer (AWS)

Publication

Shah, A. (2022). *Drivers' Visual Focus Areas on Complex Road Networks in Strategic Circumstances: An Experimental Analysis* [Master's thesis, Youngstown State University]. OhioLINK Electronic Theses and Dissertations Center.
 http://rave.ohiolink.edu/etdc/view?acc_num=ysu1670861339531086

Projects

Face Mask Detection:

- Developed a face mask detection program using Keras, TensorFlow, MobileNet, and OpenCV that raises an alarm in real-time when a human face is detected without a mask.
- Employed MobileNet to implement a convolutional neural network for accurate and real-time detection of face masks and utilized image augmentation techniques to fine-tune the model's parameters for better performance.
- Demonstrated proficiency in image processing libraries, including OpenCV, to perform object detection & image classification.
- Optimized the program's performance by fine-tuning the neural network's hyperparameters and training it on a large dataset of images, resulting in an accuracy of over 95%.

Future Sales Prediction:

- Managed and led a team in the successful implementation of Gradient Boosting algorithm on time-series datasets to accurately predict future sales trends within a tight deadline, achieving top performance in a Kaggle competition.
- Utilized advanced machine learning techniques, including feature engineering and hyperparameter tuning, to optimize the model's performance and achieve top performance in a Kaggle competition.
- Demonstrated exceptional proficiency in time-series data analysis and prediction, leveraging expertise in statistics, machine learning, and programming to develop a high-accuracy model.

Collaborative Filtering for Movie Recommendations:

- Developed and implemented a movie recommendation system based on user rating history using collaborative filtering techniques.
- Utilized similarity metrics such as Tanimoto, Pearson, and Euclidean distance to measure the similarity between users' rating history.
- Created a function that calculates the top matches for a user based on their similarity scores to other users.
- Developed a function to recommend movies to a user based on their top matches and unwatched movies.
- Employed cross-validation techniques to evaluate the accuracy of recommendations.
- Improved system performance implemented caching techniques to avoid recalculating similarity scores for previously compared users.

Machine Learning Classification using Python:

- Achieved high accuracy scores of 97.78% and 95.91% respectively, using Decision Tree algorithm on Iris dataset and Breast Cancer Wisconsin dataset.
- Utilized train_test_split function to train and test the models, achieving recall scores of 97.78% and 95.56% for Iris dataset and Breast Cancer Wisconsin dataset respectively.
- Cross-validation was performed using the cross_val_score function, resulting in an average recall score of 95.56% and 93.60% with standard deviations of 0.05 and 0.04 for the Iris and Breast Cancer Wisconsin datasets respectively.
- Naive Bayes and Random Forest algorithms were applied to classify the Iris dataset, achieving high accuracy scores of 93.33% and 97.78% respectively.

Enhancement of Message Security with Honey Encryption:

- Developed a Python program that applies password-based encryption and XOR encryption techniques to securely store confidential messages, demonstrating proficiency in cryptography.
- Designed and implemented a seed generator and password manipulation function to enhance encryption security, resulting in a 25% increase in message protection.
- Utilized dictionaries and random number generation algorithms to efficiently map user passwords to seed values and seed values to confidential messages, reducing decryption time by 40%.
- Integrated input validation to restrict user inputs to specific characters, ensuring program reliability, reducing the risk of errors by 50%.
- Implemented an exception handling mechanism to prevent program crashes and notify users of incorrect password inputs, improving user experience and reducing error reports by 30%.

Cache Simulation Program:

- Developed a cache simulation program using Java, designing it to accurately model the behavior of a cache memory system.
- Utilized data structures like arrays, hash tables, and linked lists to manage and manipulate cache data efficiently.
- Implemented multiple cache replacement policies such as Least Recently Used (LRU) and First-In-First-Out (FIFO) to allow users to customize the simulation according to their needs.
- Tested and validated the simulation program extensively, ensuring accurate and reliable results.
- Worked independently and participated in self-review to provide feedback on improving program functionality and usability.

Virtual Desktop Infrastructure (VDI) File Reader:

- Designed and implemented a secure and flexible Virtual Desktop Infrastructure (VDI) solution using VMware technologies, demonstrating skills in system design and implementation.
- Developed custom automation tools and optimized virtual networks and storage to enhance VDI performance and scalability, utilizing technical skills in PowerShell, Bash, and vSphere.
- Collaborated with cross-functional teams to troubleshoot complex technical issues and conducted extensive testing to ensure high availability and disaster recovery capabilities, highlighting strong teamwork and problem-solving abilities.