ANISH OSWAL

480-937-7592 • aaoswal@asu.edu • github.com/anishoswal • linkedin.com/in/anishoswal • anishoswal.me

EDUCATION

Master of Science in Computer Science — May 2021
Arizona State University, Tempe, AZ — GPA: 3.74/4
Relevant Coursework: Knowledge Representation, Data Mining, Social Media Mining, Distributed Database Systems, Data Visualization, Statistical Machine Learning, Artificial Intelligence, Systems Design for ML

Bachelor of Engineering in Computer Science and Engineering — May 2019
Savitribai Phule Pune University, Pune, India — GPA: 8.82/10
Relevant Coursework: Machine Learning, Data Mining and Warehousing, Data Analysis, Advanced Data Structures

TECHNICAL SKILLS

Programming: Python, Java, C, C++, C, Clingo (ASP), JavaScript, HTML5, CSS, Bootstrap, Scala
Frameworks: PyTorch, Scikit-Learn, SciPy, Keras, NLTK, Seaborn, Matplotlib, Plotly, TensorFlow, D3.js, React.js
Technologies: AWS, Tableau, Android, WordPress, Git
Databases: PostgreSQL, MySQL, Oracle, MongoDB

PROJECTS

Understanding Machine vs Human Generated Text | *GitHub* — Fall 2020
- Engineered a model to extract statistical measures of the language distribution and incorporate them as features for classification using bag of words and n-gram techniques to classify human vs machine generated text in Python.
- Evaluated the classifier on LIAR and TweepFake datasets with 83.2% and 78% classification accuracy, respectively.

Data Processing at Scale — Fall 2020
- Designed a query processor to manage data partitioning and pipelining for distributed database systems using PostgreSQL.
- Engineered a map-reduce algorithm program using Hadoop framework and Java.

Emotion Detection using Federated Learning — Spring 2020
- Developed an emotion detection algorithm to eliminate privacy concerns of a user using federated learning utilizing VGG-19, federated averaging and encryption methodologies to achieve in 75% accuracy using PyTorch - Python.
- Tested the algorithm on different edge devices on multiple datasets such as JAFFE, FERG, FER-2013 and FacesDB.

Path Planning Pac-Man | *GitHub* — Spring 2020
- Programmed various optimal graph search algorithms like A*, A* lifelong and D* lite algorithms along with adversarial search algorithms like Minimax, Expectimax and Alpha-Beta Pruning for path planning in Pac-Man domain using Python.
- Constructed a comparative report on all the algorithms based on achieved scores, expanded graph nodes & execution time.

Feature Engineering on CGM Time Series | *GitHub* — Spring 2020
- Performed data preprocessing, feature extraction, validation, verification and PCA on raw CGM time series data signifying glucose levels of different patients on meal intakes using Python.
- Applied a sliding window on the data and performed data visualization resulting in 81% prediction accuracy.

Information Dissemination in a Graph | *GitHub* — Fall 2019
- Implemented information dissemination to observe the propagation of an entity like a meme or a virus using Python.
- Integrated the algorithms (NetShield, K-Edge addition & deletion) into an ensemble system to maximize or minimize information spread through a network which can be used to stop a virus or spread information on the web.

Software Development for Laser Marking Machines — Fall 2018 - Spring 2019
- Assembled 3 modules: Automation of laser marking jobs, camera orientation & image correction, & real-time error detection into a desktop software for automating the laser marking machines at Suresh Indu Lasers Pvt. Ltd.
- Engineered the software using C, Java, VS19, Python & also published a paper in an *International Journal (IJIRSET)*.

WORK EXPERIENCE

Web Developer - Arizona State University, USA | *3DConcrete* | *TOMNET* | *SSEBE* — Dec 2019 - Present
- Developed, redesigned, and managed Arizona State University websites from scratch using WordPress, HTML, CSS & JavaScript.
- Assisted students & faculty with debugging their codes along with other IT related hardware and software issues.

Android Developer Intern - InProspect Technologies, India — Jun 2018 - Aug 2018
- Led the UI & UX Design team on Material Design schematics for building an education eccentric android application.
- Administered User Analytical data, Front-end & Back-end app development using Python & Java for Android.
- Collaborated in grooming, optimizing & testing various algorithms leading to 30% increased processing efficiency.

Software Engineer Intern - A.B. Enterprises, India — Apr 2017 - Mar 2018
- Implemented & deployed a Stock Management & Sale Analysis Software using Java, Python, MySQL & MongoDB.
- Constructed a local cloud server for in-house technical management of computer software and printers.
- Attained 20% increased work productivity & profits from the introduction of management software for the company.