

ANISH OSWAL

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

EDUCATION

Master of Science in Computer Science

Arizona State University, Tempe, AZ

May 2021

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

Savitribai Phule Pune University, Pune, India

May 2019

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, FER, 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 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

Software Engineer - Arizona State University, USA | [3DConcrete](#) | [TOMNET](#) | [SSEBE](#)

Dec 2019 - Present

- Teamed up with teams across various departments to engineer and document source code in Java and Python.
- Developed, redesigned, and managed Arizona State University websites from scratch using WordPress, HTML, CSS & JavaScript.

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.