VINIT SHETH

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EDUCATION

Arizona State University, Masters of Computer Science — **GPA 4.0** — **May 2020**
Gujarat Technological University, Bachelors in Computer Engineering — **GPA 3.7** — **June 2018**

COURSES

Masters - Artificial Intelligence, Statistical Machine Learning, Planning/Learning methods in AI
Bachelors- Data Structures, Algorithm Design and Analysis, Compiler Design, Web Technology, Object oriented programming with Java, Database Management Systems, Operating Systems, Object Oriented Programming with C++.

TECHNICAL SKILLS

Languages	Python, Java, C, C++
Web Technologies	HTML, CSS, JavaScript, JQuery, Bootstrap, AngularJS, XML, XML Schema, XSLT, JSON, ASP.NET
Databases	MySQL, Oracle 10g
Software Tools	Scikit-Learn, TensorFlow, PyCharm, Jupyter Notebook, Git, Pandas, NumPy, Matplotlib
Certifications	Oracle Certified Professional Java Programmer: JavaSE 6, Data Camp - Introduction to python for Data Science.

WORK EXPERIENCE

Graduate Service Assistant, Grader, Arizona State University. — **Sept 2018 – Ongoing.**

- Grading assignments and test papers for students enrolled in CSE 412: **Database Management** under Professor Mutsumi Nakamura.

Design Reviewer for Epics Program, Arizona State University — **Sept 2018 – Dec 2018**

- My responsibilities include providing guided mentorship and feedback on a variety of projects related to the EPICS program. The assistance is related primarily to design reviews and an in-depth review of team material submitted prior to the review.

PROJECTS

Learning from FMRI brain Imaging — **Sept 2018**

- To predict when a subject is reading a sentence vs when the subject is perceiving an image from high dimensional FMRI.
- Various feature selection methods were used and was tested on various Classification algorithms with **Support Vector Machine** attaining maximum accuracy of **88%** using **Python.**

Modified Q-Learning — **Sept 2018**

- Implemented modified Q-Learning which uses Metropolis Criterion of Simulated Annealing to gradually decrease the exploration so that the overall regret of the agent can be minimized and agent converges to optimal policy before Q-learning with fixed exploration.

Life-Long Planning — **Sept 2018**

- Implemented D* Lite and Life Long Planning A* algorithm on Pacman domain in **Python** where the agent only knows the size of grid and can observe only adjacent cells.

Implementation of Intelligent Pac-Man — **Sept 2018**

- Classical Pacman game is implemented for implementing and testing various search, Reinforcement Learning algorithms.
- Various pathfinding algorithms like A* with different heuristics and Learning algorithms like MDPs, Q-learning, Min-Max, Expectimax are implemented using **Python** for creating intelligent Pacman agent which can successfully survive number of adversarial ghosts and win the game.
- Implemented various inference algorithms like **Exact Inference, Approximate Inference, Joint Particle Filter and Joint Particle Filter with Elapse Time** were Implemented.

Machine Learning Toolkit — **Sept 2018**

- Build machine learning models for classifying handwritten digits of MNIST dataset.
- Developed multiclass **Logistic Regression** form scratch in **Python** with 92% accuracy after training for 100 iterations with learning rate 0.0001
- Developed **KNN** (K-nearest neighbors) from scratch in **Python** with 97% accuracy for k=3 neighbor.
- Successfully optimized every aspect of the algorithm so that it can complete training and testing in under 8 minutes on dual core i5 Mac Book Air for 60,000 training images and 10,000 testing images.
- Implemented **K-Means** and **GMM** clustering algorithms are implemented on Audio data.

Sentiment Analysis. — **Aug 2018**

- Created Naïve Bayes classifier form scratch in **Python** for classifying IMDB movie reviews into positive or negative.
- Total 34000 raw reviews were used which attained 91% accuracy.

Vision Compass — **April 2018**

- Developed **Android** application using **OpenCV**, **Google Vision API** which speaks the label of the object by placing them in front of the smartphone camera without any other interaction required by the user whatsoever for visually impaired person.
- This project was later funded by the Central Government under its SSIP (Startup and Innovation policy).

Intelligent Vacancy Predictor. — **April 2017**

- Build an intelligent vacancy predictor system for AICTE (All India Council for Technical Education) department of Central Government.
- The recruitment of faculty members for all the government technical institutes is done centrally so it is very important to predict how many vacancies will be created next year for effective recruitment.
- Developed a web application using **JSP**, **Mysql, Bootstrap, JQuery,** which gives an estimate of vacancies in given region for next year.