Akik Kothekar

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EDUCATION

University of Michigan, Ann Arbor, MI **Sep 2017 – May 2021**

- BSE in Computer Science, GPA: 3.4/4.0
- Relevant Coursework **–** Data Structures and Algorithms, Artificial Intelligence, PDDL, Computer Security, Discrete Mathematics, Applied Linear Algebra, Computer Organization, Probability and Statistics
- Michigan Squash – 3rd Seed on the team. Big10 Squash Champions.

Technical Skills – C++, Python, C, Java, JavaScript, Linux Shell, Git, MATLAB, Arduino

EXPERIENCE

ProQuest Ann Arbor, MI – *Incoming MDP Software Engineer* **Nov 2019 – Present**

- Developing an Artificial Intelligence powered Smart Search Assistant in collaboration with Professor Nicole Hamilton and the ProQuest team

Lenskart, Bangalore, India – *Software Engineering Intern* **May 2019 – Aug 2019**

- Developed an efficient algorithm in Python to classify a face into one of six shapes for Lenskart, a leading online eyewear retailer in India valued over a billion dollars.
- The algorithm is part of a system that recommends eyewear based on one's face shape using one's image.
- Researched trends in facial features of over 500 images using the Face++ Landmarks API to come up with an efficient algorithm and retrained the Inception v3 model for a machine learning approach to the problem.

Interactive Sensing and Computing Lab, University of Michigan – *Research Assistant* **Jan 2019 – May 2019**

- Worked under the mentorship of Professor Alanson Sample on a Human-Computer Interaction project involving RFID tags to detect the motion of an object.
- Developed and optimized open source frameworks in Python to efficiently detect motion of RFID tags in real time by analyzing data received by the tag sensor.

IIT Mumbai Mathematics Department, Mumbai – *Research Assistant* **April 2016 – August 2016**

- Modelled the Successive Over-Relaxation Solver algorithm, used for efficient computer graphics processing.
- Researched mathematical concepts such as maximal norms, convergence analysis and various iterative algorithms to solve linear systems to implement the algorithm.

PROJECTS

AI Sudoku Solver **Sep 2019 – Nov 2019**

- Developed an algorithm in Python which used multiple search techniques and heuristics to solve Sudoku as a Constraint Satisfaction Problem
- Implemented Backtracking Search and AC-3 algorithm along with Minimum Remaining Value heuristic.

Travelling Salesman Problem Algorithms **Nov 2018 – Dec 2018**

- Modelled and optimized an efficient C++ program to carry out an optimal tour of the given locations.
- Used Prim's Minimal Spanning Tree algorithm to model a branch and bound algorithm for efficient pruning.
- Explored heuristics such as arbitrary insertion to implement solutions with significantly faster runtimes.

Piazza Post Classifier **Mar 2018 – April 2018**

- Implemented a Machine Learning model in C++ to classify forum posts using Natural Language Processing.
- Trained the "Multi-Variate Bernoulli Naive Bayes NLP Classifier" using log-prior probability scores to achieve 87.1% accuracy while predicting the category of 3000 posts.

Arduino Gaming Console **Oct 2017 – Dec 2018**

- Developed a multiplayer arcade game using C++, an Arduino Uno Rev3 board and a 16x32 LED panel.
- Voted best project among 400 other projects, by representatives from Facebook and JP Morgan and Chase.

ADDITIONAL

Fluent in English, Hindi and Marathi

Avid soccer enthusiast and Manchester City supporter