Pratik Bonde

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# Education

**Master’s in Computer Science** May 2017(Expected)

Ira A. Fulton Schools of Engineering, Arizona State University, Tempe, Arizona GPA: 3.33

**Bachelor of Engineering in Computer Engineering**  June 2015

Sardar Patel Institute of Technology, University of Mumbai, India GPA: 3.7

# Experience

**Graduate Research Assistant, FACT Lab, Arizona State University** May 2016 - Present

* Contributing in a web-based intelligent tutoring system assisting math teachers and enhancing classroom experience
* Developing the JS Client using ES6 with ReactJS, Redux, Node.js, Immutable.js, Mocha, Sass, Chai, and Webpack, with communication to FACT Server through WebSockets (Socket.io) and REST API and integration testing tools
* Developed the BackOffice and Review Application, where the teacher manages different classes and reviews student’s work
* Developing the Replay feature enabling the teachers to control the playback and view while analyzing a student’s work

**Software Developer Intern: Indus Valley Partners (IVP), Mumbai, India** September 2014 - March 2015

* Built an asset management web application that computes the portfolio returns using AngularJS and C#
* Provided the flexibility to manage portfolios with the help of fluid visualisation using D3.js and HighCharts
* Developed a dynamic graphical interface to keep track of performance of a fund which helped in performance and risk analysis

# technical skills

* Programming Languages: Java, Python, JavaScript ES6, C, C++, C#, MATLAB, VB.Net
* Technologies: React.js, Angular.js, Android, D3.js, Node.js, REST API, Chai, SASS, Socket.io
* Databases: MySQL, MongoDB, SQLServer 2012, PostgreSQL
* Others: Hadoop, MapReduce, Git, Jenkins, Scrum

# PROJECTS

**Query Processing and Optimization using JAVA Minibase** April 2016

* Implemented page replacement policies LRU-K, FIFO, LIFO to facilitate buffer management in Minibase
* Optimized the query by developing a greedy algorithm for choosing the order of the two-way joins based on their estimated selectivity which reduced the execution time by 60%

**Journal File System** December 2015

* Developed a UNIX-style file system using C that maintains All-or-Nothing and Before-and-After atomicity, consisting of Cell Storage System and a Journal Storage Manager
* Designed and implemented File Access API for Create, Read, Write and Delete, also implemented logs for it in an error prone multithreaded environment

**Handwriting Recognition** December 2015

* Implemented two classifiers: Perceptron and a large margin MIRA classifier for handwriting recognition on a set of scanned hand written digit images using python
* Trained the weight vectors using the feature list and computed the class whose weight vector was most similar to the input feature and selected the class with the highest score as the predicted label for the data instance

**Combining Multiple Features in Classification** December 2015

* Studied the effect on classification accuracy using Support Vector Machines in MATLAB by combining various features of data set in different ways
* Used Chi-Square kernel as a pre-computed kernel in SVM and improved classification accuracy was obtained by kernel fusion

**Music Generation using Parametric Grammar** April 2014

* Developed an android application that generates music using inbuilt and user defined parametric grammar
* Mapped grammar rules to audio files of classical notations and designed algorithms to generate music

**Music Social Networking Web Application** October 2013

* Developed a social networking web application with a music sharing platform using JSP Servlets
* Provided users and artists with different functionalities like publicising, rating and listening to music