

Education:

- **Master of Science in Engineering in Computer Science (MSE)** May 2014
Johns Hopkins University, Baltimore, USA CGPA – 3.69/4
 - **Teaching Assistant:** Data Structures (in Java) course at Johns Hopkins University (Fall 2012, Spring 2013, and Summer 2013)
 - **Course Assistant:** for Databases course at Johns Hopkins University (Fall 2013)
 - **Research Assistant:** in Radiology Dept. at Johns Hopkins Medical Institute. It involves developing medical imaging tools in CUDA C++
 - **Relevant courses:** Big Data, Parallel Programming, Data Intensive Computing, Operating Systems, Machine Learning, Artificial Intelligence, Software Vulnerability Analysis, Algorithms
- **Bachelor of Technology in Information Technology (B. Tech)** May 2012
VIT University, Vellore, India CGPA – 8.83/10
 - **Relevant courses:** Computer architecture and organization, Distributed systems, Data warehousing and data mining, Soft computing, Object Oriented Analysis and Design.

Publication:

- **Vaibhav Mohan**, Mayank Gupta, ‘Data Regression with Normal Equation on GPU using CUDA’, *International Journal of Computer Science, Information Technology, and Security, (IJCSITS) Vol2, No.2 April 2012, ISSN: 2249-9555.*

Projects:

- **Algorithmic development of volume segmentation and analysis of tumors from radiological images** Spring 2014
A novel volume segmentation algorithm and tool to analyse tumor volume was developed in Visual C++. This was Masters Research project
- **Benchmarking a NoSQL cluster – Cassandra** Fall 2013
We measured throughput, operations per second as a function of the size of the read or write, and scalability of Cassandra cluster
- **Approximating the number of energy wells in a given protein molecule** Summer 2013
Used python gearman, and greenplum database in implementing this project
- **A Cellular Automata in MPI - Implementing Conway's game of life using MPI** Spring 2013
Used MPI to simulate Conway's game of life using 16x16 grid
- **Three's Company** Spring 2013
Used Apache Hadoop to implement the project in order to identify threesomes of users that are mutual friends in a social network. The output enumerated the mutual friends for each user and avoided duplicate entries
- **Comparison of various reinforcement learning algorithms to solve racetrack problem** Spring 2013
Implemented Value Iteration algorithm, Q-learning algorithm and Q-learning algorithm with function approximator in JAVA
- **Comparison of various algorithms for building decision trees** Spring 2013
Implemented Decision tree classifier using ID3, C4.5 and GAs in JAVA and tested their performance on datasets obtained from UCI
- **Clustering Algorithm for large datasets on GPU** Fall 2012
Parallel k-means clustering algorithm was implemented on GPU using CUDA. The largest size of datasets used was 2 GB
- **Comparison of various classification models for making financial decisions** Fall 2012
Implemented and compared various Machine Learning algorithms such as Neural Networks, Ensemble predictor etc. in JAVA
- **Programming model for GPGPU for various algorithmic problems** Spring 2012
Implemented RSA algorithm, Dense Matrix-Matrix multiplication on CPU as well as GPU and compared their performance. This was a final year UG project.
- **Data Regression with Normal Equation on GPU using CUDA** Fall 2011
Implemented normal equation algorithm on CPU as well as GPU and compared their performance. This resulted in a publication.
- **Singer's Information Website** Spring 2010
Used HTML, JavaScript, JSP, and Oracle 10g for designing this website.
- **Online Bank System Website** Spring 2010
Used HTML, JavaScript, PHP, and MySQL for designing this website.
- **Scientific Calculator Application for Android OS** Fall 2010
Used JAVA in implementing this project along with Android SDK v1.5.

Skills:

- Softwares worked on: MS Office, MS Visual Studio, Latex, Eclipse, Keil, Multisim, and SolidWorks
- Programming Languages used: C, C++, JAVA, CUDA C/C++, Python, HTML, JavaScript, JSP, PHP, OpenMP, MPI
- Databases/Operating Systems used: Oracle 10g, MySQL, PostgreSQL, Greenplum, Cassandra, Linux and Windows
- Software frameworks used: Apache Hadoop, Gearman, Memcache
- Languages known: English, Hindi, and Bhojpuri