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Saiful Abu

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Education

UTEP. M.S. in Computer Science. GPA: 3.85.
Thesis Title: Customer's Electricity Demand Prediction in PowerTAC competition Using Machine Learning.
BUET. BS in Computer Science. GPA 3.54.

Industry Experience

Junior Software Engineer **Cerner Corporation** **February 2017 – Present**

- **Data Migration** Wrote scripts to migrate approximately 11 peta bytes of data from CDH4 to CDH5 version. HDFS, HBase, Java, Ruby and Shell script.
- **Automating Process Deployment** Wrote scripts to automate manual steps and condition checks before deploying Cerner's near real time data processor and accumlator. Shell script.
- **Software Support** Participated routinely on software support for downstream teams.
- **REST API Update** Updated existing rest api to capture more information of a patient. Java, Scala, HDFS.
- **Volunteer Work** Worked as scrum master for a team of 15 people in Cerner DevCenter for new hires. Regularly presented small tech talks at DevCenter.

Academy Software Engineer **Cerner Corporation** **October 2016 – January 2017**

Received training on agile development, unit testing, Maven, Git, Jira, Crucible, and Jenkins. Worked on a project to track opensource dependencies to practise the training materials. Posted code reviews and addressed comments posted by 3 Cerner engineers.

Other Experiences

Teaching Assistant **CS Department, UTEP** **June 2015 - July 2016**

Managed lab for a course that required the students to implement data structures and algorithms using Java.

Research Assistant **IASRL, UTEP** **June 2015 - July 2016**

Developed data driven electricity prediction component for smart grid related international competition, PowerTAC. Was able to reduce the prediction error from 70% to on the average of 30%. Java, Weka.

Personal Projects

- **Virtual Machine** (2017). Wrote a JVM-like but simpler stack based virtual machine for the HACK architecture. Java. https://github.com/saifulAbu/Virtual-Machine
- **Assembler** (2017). Wrote an assembler that converts assembly instructions to binary instructions for the HACK architecture. Java. https://github.com/saifulAbu/Assembler
- **Computer Implementation** Implemented HACK, a modern computer architecture with 16 bit CPU, 16 MB RAM for data memory and ROM for instruction memory. Implemented the computer from the scratch using only 1 bit NAND gates and 1 bit DFlipFlops using HDL. https://github.com/saifulAbu/HACK-Architecture
- **Neural Network** Implemented a neural network from the scratch for digit recognition. Python. https://github.com/saifulA
- **Enigma Simulator** (2016). Developed world war 2 cryptographic device simulator. Java. https://github.com/saifulAbu/C
- **Compiler** (2016). Developed a compiler that would parse and build abstract syntax tree for a Java like programming language called Mini-Java. https://github.com/saifulAbu/MiniJavaCompiler
- **Blog Posts** Have been maintaining a blog on computer science and philosophy. http://www.saifulabu.me

Skills

- Java(Proficient); C++; C; Objective-C; SQL.

- Eclipse; XCode; Visual Studio.
- Windows; Mac OS; Linux.