SHADAB ZAFAR

ACADEMIC DETAILS

Year	Degree / Board	Institute	GPA / Marks(%)
---	M.Tech in Computer Science & Engineering	Indian Institute of Technology, Delhi	8.6
2011	CBSE	S. N. Sidheshwar School, Gurgaon	91%
2009	CBSE	S. R. Century School, Bahadurgarh	88%

DEGREES PRIOR TO IIT

Year	Degree	Institute	GPA / Marks(%)
2016	B. Tech	Jamia Millia Islamia, Delhi	9.24/10

COURSES DONE

Advanced Data Structures, Intro. To Logic & Funct. Prog., Software Systems Laboratory, Minor Project, Machine Learning, Spl. Topics In High Speed Net., Network & Systems Security

WORK EXPERIENCE

• **Adobe Systems, Noida** (Jun '16 – Sep '16) : Software Engineer.

INTERNSHIPS

• **Google Summer of Code** (Apr'16 – Aug'16) : Work from home under *The Honeynet Project*.
  - Improved a Python based HTTP proxy tool called *mitmproxy*.
• **Google Summer of Code** (Apr'15 – Aug'15) : Work from home under the *MetaBrainz Foundation*.
  - Made various improvements to a music review website called *CritiqueBrainz*.
• **Google Summer of Code** (Apr'14 – Aug'14) : Work from home under the *MetaBrainz Foundation*.
  - Created a new website and an API for a music tagging tool called *Picard*.

PROJECTS

• Major: ***Fast stabilization of PoW Blockchains*** (Prof. Vinay Ribeiro) (Jun '18 - Present)
  - Modified the Bitcoin Core code (C++) to implement a new approach of improving blockchain stability.
  - Set up a test bed to run simulations involving multiple Bitcoin nodes.
• Minor: ***Acoustic side-channel via motion sensors*** (Prof. Vinay Ribeiro) (Jan '18 - May '18)
  - Investigated how sensors like accelerometer & gyroscope can be exploited to work as a microphone.

Course Assignments

• **Discrete-event Blockchain simulator** (Feb '18) :
  - Wrote a simulator (in Python) showing effects that various starting parameters can have on a Blockchain's growth.
• **Ethereum smart contract** (Apr '18) :
  - Created a smart contract for distribution of licensed media and also wrote its unit-tests in Javascript.
• A **Term paper** reviewing various issues and some proposed solutions of improving anonymity in cryptocurrencies.
• **P2P cryptocurrency simulator** (Aug '17) :
  - Implemented a DHT and simulated a P2P cryptocurrency network where nodes could perform transactions.
• **Analysis of GitHub Data** (Nov '17) :
  - Processed ~100 GB data (on a cluster of 4 nodes) using HDFS & Apache Spark to generate various insights.
• **Machine Learning Algorithms** (Jan '18 - May '18) :
  - Implemented from scratch algorithms like Regression, Naive Bayes, SVM (Pegasos), Decision Trees etc.
• **Network Security Algorithms** (Jan '18 - May '18) :
  - Implemented in Python : DES, RSA, Document time-stamping authority and a Certification authority.

Open Source Projects

• **youtube-dl** (Jul '15) :
  - Contributed patch to a Python based video downloading tool adding support for a new website.
• **Sublime Text Plugins** :
  - Have contributed several patches to existing Sublime Text plugins and have created a few of my own.
• **Productivity tools** :
  - Have written scripts to automate tasks like batch renaming of files, capturing & uploading screenshots, tagging my articles-to-read list, monitoring my internet bandwidth consumption, converting source-code/websites to PDFs, creating a "zero-byte" disk mirror, fetching & embedding lyrics into MP3 files, renaming research papers with their titles etc.

EXTRA CURRICULAR ACTIVITIES

• Delivered a talk on designing command-line interfaces in Python at FOSSASIA Summit (2016) in Singapore.