

Education

M.A. (PhD Incomplete) in Computer Science

Princeton University

Princeton, New Jersey, USA

Apr. 2016

- Awarded research assistance for work on Network Performance Analysis and Home Network Security.
- Advisor: Prof. Nick Feamster
- GPA: 3.8/4.0

B.Tech. and M.Tech. in Electronics and Communication Engineering

Indian Institute of Technology, Roorkee

Roorkee, INDIA

Dec. 2010

- Specialization in Wireless Communication.
- Thesis: Performance Evaluation of Cross-Layer Wireless Body Area Networks.
- GPA: 8.06/10.00

Skills

Programming	Python v2.7, Python v3.7, iPython v7.8, Scala v2.11, Java v12.0, PostgreSQL, C/C++, R, Matlab, Node.js
Analytics	Pandas v0.23, Scikit-Learn v0.21, Tensorflow v1.15, Pyspark (Apache Spark), Numpy, Scipy, Matplotlib
Networking	Wireshark/Tshark v2.0, Iperf v3.7, Nmap v7.8, Scapy v2.4, Urllib3, Requests, Beautiful Soup 4, Networkx
Tools	PyCharm, PyLint, IntelliJ IDEA SBT, Eclipse, Git, Linux, Adobe Photoshop, Corel Draw, MS Office, LaTeX

Work Experience

Sugandhaa Co., Ltd.

Business Manager

New Delhi, INDIA

Apr. 2018 - Present

- Implemented RESTful API server for car rental booking application(CARPLAT in Google Play).
- Built and deployed overall service infrastructure utilizing Docker container, CircleCI, and several AWS stack(Including EC2, ECS, Route 53, S3, CloudFront, RDS, ElastiCache, IAM), focusing on high-availability, fault tolerance, and auto-scaling.
- Developed an easy-to-use Payment module which connects to major PG(Payment Gateway) companies in Korea.

Princeton University

Graduate Research Assistant

Princeton, NJ, USA

Jan. 2015 - Sep. 2017

- Provisioned an easily manageable hybrid infrastructure(Amazon AWS + On-premise) utilizing IaC(Infrastructure as Code) tools like Ansible, Packer and Terraform.
- Built fully automated CI/CD pipelines on CircleCI for containerized applications using Docker, AWS ECR and Rancher.
- Designed an overall service architecture and pipelines of the Machine Learning based Fashion Tagging API SaaS product with the micro-services architecture.
- Implemented several API microservices in Node.js Koa and in the serverless AWS Lambda functions.
- Deployed a centralized logging environment(ELK, Filebeat, CloudWatch, S3) which gather log data from docker containers and AWS resources.
- Deployed a centralized monitoring environment(Grafana, InfluxDB, CollectD) which gather system metrics as well as docker run-time metrics.

Comcast Cable Communications, LLC

Research Intern

Philadelphia, PA, USA

May. 2016 - Aug. 2016

- Developed a proxy drive smartphone application which connects proxy driver and customer.
- Implemented overall Android application logic and wrote API server for community service, along with lead engineer who designed bidding protocol on raw socket and implemented API server for bidding.

Georgia Institute of Technology

Graduate Research Assistant

Atlanta, GA, USA

Aug. 2012 - Dec. 2014

- Implemented RESTful API server for car rental booking application(CARPLAT in Google Play).
- Built and deployed overall service infrastructure utilizing Docker container, CircleCI, and several AWS stack(Including EC2, ECS, Route 53, S3, CloudFront, RDS, ElastiCache, IAM), focusing on high-availability, fault tolerance, and auto-scaling.
- Developed an easy-to-use Payment module which connects to major PG(Payment Gateway) companies in Korea.

INRIA

Research Intern

Paris, FRANCE

May. 2014 - Sep. 2014

- Developed a proxy drive smartphone application which connects proxy driver and customer.
- Implemented overall Android application logic and wrote API server for community service, along with lead engineer who designed bidding protocol on raw socket and implemented API server for bidding.

LIP6, UPMC

Research Intern

Paris, FRANCE

Jun. 2013 - Sep. 2013

- Developed a proxy drive smartphone application which connects proxy driver and customer.
- Implemented overall Android application logic and wrote API server for community service, along with lead engineer who designed bidding protocol on raw socket and implemented API server for bidding.

North Carolina State University

Research Scholar

Raleigh, NC, USA

Dec. 2011 - Apr. 2012

- Lead engineer on agent-less backtracking system that can discover client device's fingerprint(including public and private IP) independently of the Proxy, VPN and NAT.
- Implemented a distributed web stress test tool with high anonymity.
- Implemented a military cooperation system which is web based real time messenger in Scala on Lift.

Indian Institute of Science

Junior Research Fellow

Bangalore, INDIA

Apr. 2011 - Dec. 2011

- Lead engineer on agent-less backtracking system that can discover client device's fingerprint(including public and private IP) independently of the Proxy, VPN and NAT.
- Implemented a distributed web stress test tool with high anonymity.
- Implemented a military cooperation system which is web based real time messenger in Scala on Lift.

Selected Publications

A Case Study of Traffic Demand Response to Broadband Service-Plan Upgrades

Sarthak Grover, Roya Ensafi, and Nick Feamster

Proceedings of 17th International Conference on Passive and Active Measurement (PAM), 2016, Heraklion, Greece

The Internet of Unpatched Things

Sarthak Grover and Nick Feamster

Proceedings of FTC PrivacyCon, 2016, Washington, DC, USA

Facade: High-Throughput, Deniable Censorship Circumvention Using Web Search

Ben Jones, Sam Burnett, Nick Feamster, Sean Donovan, Sarthak Grover, Sathya Gunasekaran, and Karim Habak

4th USENIX Workshop on Free and Open Communications on the Internet (FOCI), 2014, San Diego, CA, USA

Panoptes: Detecting Malware Activity in Home Networks

Sarthak Grover and Nick Feamster

HomeSys: Workshop on Design, Technology, Systems and Applications for the Home (UbiComp), 2013, Zurich, Switzerland

Peeking Behind the NAT: An Empirical Study of Home Networks

Sarthak Grover, Mi Seon Park, Srikanth Sundaresan, Sam Burnett, Hyojoon Kim, Bharath Ravi, and Nick Feamster

Proceedings of the ACM Internet Measurement Conference (IMC), 2013, Barcelona, Spain

Honors & Awards

INTERNATIONAL

2018	Finalist , DEFCON 26th CTF Hacking Competition World Final	Las Vegas, U.S.A
2017	Finalist , DEFCON 25th CTF Hacking Competition World Final	Las Vegas, U.S.A
2014	Finalist , DEFCON 22nd CTF Hacking Competition World Final	Las Vegas, U.S.A
2013	Finalist , DEFCON 21st CTF Hacking Competition World Final	Las Vegas, U.S.A
2011	Finalist , DEFCON 19th CTF Hacking Competition World Final	Las Vegas, U.S.A

DOMESTIC

2015	3rd Place , WITHCON Hacking Competition Final	Seoul, S.Korea
2017	Silver Prize , KISA HDCON Hacking Competition Final	Seoul, S.Korea
2013	Silver Prize , KISA HDCON Hacking Competition Final	Seoul, S.Korea