

## 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

<b>Programming</b>	Python v2.7, Python v3.7, iPython v7.8, Scala v2.11, Java v12.0, PostgreSQL, C/C++, R, Matlab, Node.js
<b>Analytics</b>	Pandas v0.23, Scikit-Learn v0.21, Tensorflow v1.15, Pyspark (Apache Spark), Numpy, Scipy, Matplotlib
<b>Networking</b>	Wireshark/Tshark v2.0, Iperf v3.7, Nmap v7.8, Scapy v2.4, Urllib3, Requests, Beautiful Soup 4, Networkx
<b>Tools</b>	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

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### 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

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### INTERNATIONAL

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

### DOMESTIC

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