

# SANTWANA VERMA

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BTech, Electrical Engineering (Minor in Computer Systems)

## WORK EXPERIENCE

### AppDynamics, Bangalore

July 2019 - Present • Software Engineer

- Working with the Alerting team, which collects real-time metrics and enforces user defined health rules for an application.
- Revamped the health rule API to allow for 'monitoring as code'.
- Wrote a healthrule management tool to allow for import/export of healthrules across applications.
- Implemented action suppression scheduling component end to end.
- Technologies: Kafka, Kubernetes, Java

### NYU Tandon School of Engineering, New York

Summer 2018 • Research Intern

- Validated a mathematical model proposed for TCP-BBR, the latest congestion control algorithm by Google, using its Kernel code.
- Noticed a decrease in the performance of the TCP-BBR for the wireless scenario, while it works as expected for the wired connections.
- Designed an experiment on the Cloudlab test bed to collect data to validate the model with local changes to the kernel.
- Utilities used: netem to emulate WAN conditions, ss to investigate sockets, iperf3 to emulate data transfer between the nodes.
- **Github:** santwanav/TCP-BBR

### New York Office for IIT Kanpur, IIT Kanpur

Summer 2017 • Android App Developer

- Android App for Information Retrieval and Management: Worked on scalable app, designed in MVVM structure.
- Served as a peer mentor and led a team of 3 interns for group hacking and development of app.
- Integrated various backend services in the app using Retrofit and OkHTTP.
- Implemented unit testing and linting.
- Integrated wysiwyg editor in app with features like saving drafts and publishing attachments.
- Improved UX/UI as per Googles Material Design guidelines.
- Technologies: Java, Android SDK, Kotlin

### New York Office for IIT Kanpur, IITK

December 2017 • Frontend Developer

- Worked on porting components of a normal Angular App to one based on Redux architecture (NgRx).
- Technologies: TypeScript, Angular

## EDUCATIONAL QUALIFICATIONS

2019	BTech, Electrical Engineering	Indian Institute of Technology, Kanpur
2014	AISSE XII	Kendriya Vidyalaya, Lucknow
2013	ICSE - X	Mount Carmel College, Lucknow

## PROJECTS

### Flash Removal from Photographs

Undergraduate Project • Guide: Prof. K. S Venkatesh

- Implemented an algorithm using techniques like feature detection, image registration, edge detection etc., to detect a flash in photographs and generate a flash-free photograph using two photographs.
- **Report:** flash-photography-report

### Antaragni App, IIT Kanpur

Summer 2016 • Programming Club, IIT Kanpur • Intern

- Revamped the existing app for the cultural fest of IIT Kanpur, Antaragni16, with new features and made the information retrieval of the existing project dynamic by shifting the database to MongoDB.
- Integrated Facebook, Google sign-in to utilize social information of the user.

## SCHOLASTIC ACHIEVEMENTS

- **JEE Advanced 2015** All India Rank **2039**.
- State Rank-299 UP State Engineering Exam15

## SKILLS

- **Languages:** Java, C++, TypeScript, Python
- **DevOps:** Kubernetes, Docker
- **Technologies:** Kafka, Node, Angular
- **Utilities:** Linux Kernel Programming, Linux Shell Utilities, NgRx, GDB, Git, Swagger, OpenCV, LATEX, Vim
- **App:** Android Studio, Gradle, groovy
- **Exposure:** Haskell, MongoDB

## RELEVANT COURSES

**CS:** Data Structures and Algorithms, Computer Organization, Operating Systems, Principles of Programming Languages, Blockchain Technologies, Introduction to Software Engineering

**Math:** Probability and Statistics, Partial Differential Equations, Complex Variables, Theory of Computation

**Electrical:** Mathematical Structures of Signals and Systems, Convex Optimization, Information Theory, Communication Systems, Control Systems Analysis

## POSITION OF RESPONSIBILITIES

- Senior Executive, Web-App team, Antaragni16
- Student Guide, Counselling Service, IIT Kanpur
- Academic Mentor, Electrodynamics, IIT Kanpur