

Dhruv Agarwal

<https://agdhruv.github.io>
dhruv.agarwalug19@ashoka.edu.in | +91 9013699205

EDUCATION

ASHOKA UNIVERSITY

B.Sc. (H), COMPUTER SCIENCE
May 2019 | Sonapat, India
Dean's List (All Semesters)
Major CGPA: 3.99 / 4.0
Cumulative GPA: 3.85 / 4.0

MT. ST. MARY'S SCHOOL

May 2016 | New Delhi, India
Best of 4: 95.75%

SKILLS

Proficient:

Python • C++ • JavaScript •
PHP • CSS • HTML • \LaTeX

Familiar:

C • Assembly

Database Management:

MySQL • MongoDB

Others:

Git • Bash • Flask • Node.js

Designing:

Adobe Photoshop

COURSEWORK

Discrete Mathematics
Probability & Statistics
Computer Organization & Systems
Operating Systems
Algorithms Design & Analysis
Data Visualization
Introduction to Machine Learning
Computer Networks
Programming Languages Design

Ongoing:

Theory of Computation
Computer Security and Privacy
Advanced Machine Learning

Teaching Assistant:

Short Course on Big Data

LINKS

Github:// [agdhruv](#)
LinkedIn:// [agdhruv](#)

EXPERIENCE

MICROSOFT | RESEARCH INTERN

May 2019 – Present | Bangalore, India

- Deploying a large low-cost air pollution sensor network across a city on mobile vehicles and static buildings.
- Collecting 4 million data points per month, processing them, storing them, and mining them for statistical analysis, machine-learning analysis and big-data visualisation.

MIRABILIS DESIGN | SOFTWARE ENGINEERING INTERN

December 2018 – Present | Chennai, India

- Developing a tool-chain to run system-level simulations of executables compiled for different architectures for performance analysis (with Prof. Manu Awasthi).
- Research work includes generating execution traces of ARM executables from QEMU, and binning of the entire ARM instruction set for calculating performance metrics.
- Tool will be incorporated into VisualSim, a simulation product used in system design by NASA and Samsung and the like.

AMPERSAND DESIGN | DEVELOPMENT INTERN

July 2017 – August 2017 | Gurgaon, India

- Developed industry standard interaction heavy web pages for the State Bank of India Card (SBI Card) website using HTML, CSS and JavaScript.
- Quality of work and commitment was rewarded with freelance job offers after completion of the internship: chatbot interface on SBI Card homepage.

PROJECTS

ASHOKA MENU AND SHUTTLE BOT Mar '17

- As IT Minister in the elected Student Government, developed a Messenger Bot to inform users about the mess menu for the day, timings of the shuttle service, etc.
- Tech stack – Python (+ Flask), MongoDB and Facebook APIs.

ENERGY MONITORING SYSTEM Aug '17 - Dec '17

- Developed a prototype to inform the occupants of a room about their real-time energy wastage, and allow comparison with their past statistics in monetary terms.
- Tech stack – Arduino (C++), Raspberry Pi, Python (+ Flask), MySQL

VAHN: VEHICLE ACCIDENT HAZARD NOTIFIER Aug '18

- Developed a real-time Smart City system for automatic detection and reporting of road accidents, using a machine learning and vision algorithm, for reduced relief response time and avoiding chaining of accidents.
- Adjudged 5th best project out of 400 teams pan-India at Hack-IIITD.

SIGNATURE VERIFICATION/FRAUD DETECTION Nov '18

- Trained a convolutional neural network to detect forgeries in signatures to detect fraud in virtually any human-oriented setting.

TEAM EXPERIENCE

2016	Head of Tech team for inaugural inter-varsity cultural fest
2017	Founder and organizer of the inaugural inter-varsity sports fest
2018	Fest Secretary of the sports fest (headed 70 member team)
2018	Started "Project Muskaan" to teach computers to village kids
2016-2018	Represented University in Badminton, Lawn Tennis, and Football