

# Sharad Agarwal

<https://sharad1126.github.io>  
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## EDUCATION

### UNIVERSITY COLLEGE LONDON (UCL)

#### PHD COMPUTER SCIENCE

May 2022 - ongoing | London, UK  
Researching online financial fraud.

### UNIVERSITY COLLEGE LONDON (UCL)

#### MSc IN INFORMATION SECURITY

Sep 2021 | London, UK  
Grade: Distinction (Dean's List Award)  
Certified by the UK National Cyber Security Centre.

### VIT UNIVERSITY

#### BTECH IN COMPUTER SCIENCE AND ENGINEERING

April 2018 | India  
CGPA: 8.98/10

## LINKS

Github:// [sharad1126](https://github.com/sharad1126)  
GoogleScholar:// [Sharad-Agarwal](https://scholar.google.com/citations?user=sharad1126)  
ResearchGate:// [Sharad\\_Agarwal8](https://www.researchgate.net/profile/Sharad-Agarwal)

## SKILLS

### PROGRAMMING

- Python • R • Shell Scripting • HTML
- CSS • JavaScript • PHP • MySQL
- MongoDB •  $\LaTeX$  • C++ • Java • C
- Assembly (x86)

### CYBER SECURITY

- Web Application Security (VAPT)
- Cyber Forensics (mobile, email, banking, e-commerce, reverse engineering, social engineering)
- Indian IT Act 2000

### DEVOPS

- Git • Docker • OpenStack • Elastic Search • AWS EC2 • Puppet • JIRA
- Grafana • Kibana

## CERTIFICATIONS

### RED HAT CERTIFIED SYSTEM ADMINISTRATOR (RHCSA)

## EXPERIENCE

### STOP SCAMS UK | SCAM INTELLIGENCE ANALYST

Sept 2023 - ongoing | London, United Kingdom

- Analyzing spam data from a partner UK mobile network operator to categorize the various kinds of scams in the ecosystem.
- Collaborating with partner financial institutions and Meta to investigate and report the marketplace scams on Meta platforms.

### STOP SCAMS UK | SCAM INTELLIGENCE INTERN

Jul 2023 - Sept 2023 | London, United Kingdom

- Created a honeypot to manually interact with 'hi mum and dad' SMS scammers and collect mule accounts.
- Developed scripts to automatize operations, enrich the data and analyze the collected data.
- Collaborated with financial institutions to report and estimate the actual losses.

### UNIVERSITY OF BRISTOL | RESEARCH ASSOCIATE

Jun 2021 - Apr 2022 | Bristol, United Kingdom

- Designed and built the first-ever IIoT smart dairy farming tabletop testbed for security assessment. Found vulnerabilities and submitted responsible disclosures to the manufacturers.
- Performed a socio-technical study by conducting farmers' interviews to understand their perception and behaviour towards cybersecurity risks.

### UNIVERSITY COLLEGE LONDON (UCL) | RESEARCH ASSISTANT

Oct 2020 - Apr 2021 | London, United Kingdom

- Investigated and collected data on the High Yield Investment Programs (online Ponzi schemes).
- Explored the exploitation of the UK Companies House to register such schemes as 'limited company' and analyzed the data to find features affecting the lifetime of the schemes.

### EUROPEAN ORGANIZATION FOR NUCLEAR RESEARCH (CERN)

#### PROJECT ASSOCIATE, AFFILIATION UNIVERSITY OF WISCONSIN MADISON

Jul 2018 - Sept 2020 | Geneva, Switzerland

- DevOps in Monte Carlo Production and Data Reprocessing Team at Compact Muon Solenoid (CMS) Experiment.
- Managing thousands of requests producing petabytes of data per month.
- Maintained and updated in-house developed software like Unified, HTCCondor, Phedex and others to run campaigns over the Worldwide LHC Computing Grid.

### EUROPEAN ORGANIZATION FOR NUCLEAR RESEARCH (CERN)

#### CYBER SECURITY INTERN

Jan 2018 - Jun 2018 | Geneva, Switzerland

- Developed software to detect Internet of Things (IoT) devices and identify the manufacturer, model, and firmware of the device.
- Scanned the CERN network, performed Vulnerability Assessment, and mitigated them by contacting the device owners through a platform called Fast Incident Response (FIR).
- All code was reviewed, tested and pushed to production.

## TALKS

### GURUGRAM POLICE CYBER SECURITY SUMMER INTERNSHIP 2020 & 2022, INDIA

Invited Speaker to present on Privacy, IoT Security, and Cyber Security Research.

### 7TH CONTROL SYSTEM CYBER-SECURITY WORKSHOP (CS)2/HEP, USA

IoT Security at CERN (October 2019).

### CMS WEEK 2019, CERN

Tutorial on Computing Operations at CMS Experiment, CERN.

### ROYAL COLLEGE OF ARTS (RCA), LONDON

Invited Speaker and mentor at the Grand Challenge 2018 to present on IoT Security and CMS Computing Operations at CERN.

### CERN IT LIGHTNING TALKS

Presented the work on IoT Device recognition and security analysis.

### CERN OPENLAB IT LIGHTNING TALK

Won the first prize for presenting IoT Security insights at CERN.

## SCHOLARSHIPS

### BLACKHAT EUROPE 2019, 2022 & 2023

Awarded Black Hat Europe conference passes.

### APWG ECRIME 2022

Awarded a complimentary conference pass.

### IEEE EUROS&P 2022

Awarded a discounted conference pass.

### FC'23

Awarded 500 euros towards conference expenses.

## TRAININGS

### BLACKHAT EU 2019, 2023 & USA 2020, 2021

Malware Analysis, Reverse Engineering, and Memory Forensics.

## HACKATHONS

### HACKZURICH SELECTED

PARTICIPANT

Sept 2023 | Zurich, Switzerland

### THE PORT HUMANITARIAN HACKATHON SELECTED

PARTICIPANT

Oct 2019 | CERN, Switzerland

### CERN WEBFEST RUNNER-UP

Jul 2017 | CERN, Switzerland

## EUROPEAN ORGANIZATION FOR NUCLEAR RESEARCH (CERN)

### OPENLAB SUMMER STUDENT

Jun 2017 – Aug 2017 | Geneva, Switzerland

- Performed the first detection of Internet of Things (IoT) devices manually by scanning the network and conducting Vulnerability Assessments to mitigate the risks.
- Tried to map the CERN network on a graph, which was not possible due to TBs of logs produced every hour.

## NATIONAL CYBER DEFENSE RESEARCH CENTRE (NCDRC)

### RESEARCH INTERN

Jan 2017 – May 2017 | Chennai, India

- Published a research proposal on 'Internet Censorship in India' and submitted it to the Internet Regulatory Authority of India (TRAI).

## CYBER CRIME CELL, HARYANA POLICE | CYBER SECURITY INTERN

Jun 2016 – Jul 2016 | Gurugram, India

- Developed a comprehensive call data record (CDR) analyzer and plotted the location of the cellphone on Google Earth by creating the KML file.
- Researched mobile crimes and submitted a report to the Commissioner of Police.

## DOCTORS EMERGENCY RESCUE TASK (DERT APP) | FOUNDER AND SYSTEM ADMINISTRATOR

May 2016 – May 2018 | Dehradun, India

- Led a team to develop a cross-platform app to secure doctors from violence, which has been accepted and recognized by the Indian Medical Association.
- Used by more than 160 doctors in the city.
- Featured in media - Wittyfeed, Kenfolios, Times Of India, Student Stories, and others.

## PUBLICATIONS

- Agarwal, S., Harvey, E., Mariconti, E., Suarez-Tangil, G., and Vasek, M. 'Hey mum, I dropped my phone down the toilet': Investigating Hi Mum and Dad SMS Scams in the United Kingdom. Under Submission at USENIX Security'24.
- Agarwal, S., Atondo-Siu, G., Ordekian, M., Hutchings, A., Mariconti, E. and Vasek, M. (Feb 2023) DeFi Deception—Uncovering the prevalence of rugpulls in cryptocurrency projects. Financial Cryptography and Data Security 2023 (FC'23), Croatia.
- Agarwal S., Rashid A., and Gardiner J. (Aug 2022) Old MacDonald had a smart farm: Building a testbed to study cybersecurity in smart dairy farming. In Cyber Security Experimentation and Test Workshop (CSET 2022), August 8, 2022, Virtual, CA, USA. ACM, New York, NY, USA.
- Agarwal S. and Vasek M. (June 2022) Investigating the concentration of High Yield Investment Programs in the United Kingdom. In IEEE European Symposium on Security & Privacy Workshops (WACCO), June 6, 2022, Genoa, Italy.
- Rai I., Agarwal S., Malta Rodrigues A., Muzaffar M.S. (Sept 2020) CMS - Automation of Unified building and testing, CERN, Geneva, Switzerland.
- Ahuja A., Agarwal S., Lange D. (July 2020) Growth and Evolution CMS Offline Computing from Run 1 to HL-LHC. ICHEP 2020.
- Layer L., Abercrombie D., Bakhshiansohi H., Si W., Vlimant JR., Hernandez A., Agarwal S., Adelman-Mccarthy J. (Nov 2019) Automatic log analysis with NLP for the CMS workflow handling. CHEP 2019 Conference Proceedings.
- Agarwal, S.; Oser, P.; Lueders, S. Detecting IoT Devices and How They Put Large Heterogeneous Networks at Security Risk. Sensors 2019, 19, 4107. (Impact Factor: 3.576)

## SUMMER SCHOOLS

### **PH.D. SUMMER SCHOOL ON QUANTITATIVE CYBERSECURITY RESEARCH**

July 2023 | Obergurgl, Austria

### **CERN SCHOOL OF COMPUTING**

DIPLOMA IN PHYSICS COMPUTING,  
SOFTWARE ENGINEERING, AND DATA  
TECHNOLOGIES

Sep 2019 | Cluj Napoca, Romania

### **THEMATIC CERN SCHOOL OF COMPUTING**

DIPLOMA IN HIGH  
THROUGHPUT DISTRIBUTED  
COMPUTING

May 2019 | Split, Croatia

### **GRIDKA SCHOOL**

May 2019 | KIT, Germany

### **APPLIED MACHINE LEARNING DAYS**

2019 | EPFL Lausanne, Switzerland

### **CERN WHITEHAT TRAINING WORKSHOP**

2018 | Geneva, Switzerland

- Oser P., Agarwal S. (June 2018) Computer Security: Smile you're on camera...
- Agarwal, S., Patel, F., Chaturvedi, P., Asha, S. and VIT, C., 2018. A Novel Approach for Communication among Blind, Deaf and Dumb People. International Journal of Pure and Applied Mathematics, 118(24).
- Agarwal S., Thomas A. (Dec 2017) Internet Censorship in India, NCSSS Summit, 2017, BITS Goa.
- Agarwal, S., Oser, P., Short, H., & Lueders, S. (2017, October 23). Internet of Things (IoT) security. Zenodo. <http://doi.org/10.5281/zenodo.1035034>