

# Arindaam Roy

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## Education

### University of California Davis

MSc IN COMPUTER SCIENCE

• Courses: Software Engineering, Distributed Database Systems, Operating System, Artificial Intelligence

Davis, CA

Sept. 2021 - Exp. May 2023

4.0/4.0 GPA

### Delhi Technological University

B.TECH IN INFORMATION TECHNOLOGY

Delhi, India

Aug. 2016 - May 2020

## Work Experience

### Kadmik (Early Stage EdTech Startup)

BACKEND SOFTWARE ENGINEER

- Technologies: Python, Fastapi, Celery, Redis, Postgresql, MySQL, Websocket, REST apis, CatSim, Asyncio, AWS, Docker, OOP, Design Patterns
- Built the backend (Fastapi, Postgres, AWS) and multithreaded game engine of **Kadmik** from scratch.
- Collaborated in a team of 3 to design and develop the system architecture and api security.
- Cleaned and processed multiple data sources to assemble a multilingual question bank with over 250k questions.
- Slashed API latency by 75% by optimising SQL queries. Instrumented and profiled the backed code to identify bottlenecks.

Remote (India)

Jan. 2021 - Sept. 2021

### ICICI Lombard General Insurance Co. Ltd

SOFTWARE DEVELOPER

- Technologies: Python, AWS, Flask, Neo4j, REST apis, Prometheus, Grafana, Lambda, S3, Redshift, Kinesis - Firehose
- Constructed a data pipeline using AWS services for click-stream analysis using Lambda, S3, Firehose and Redshift.
- Reconfigured a monitoring and alerting system with custom metrics backed by Prometheus and Grafana.
- Owned and designed a microservice for a discount engine from scratch using Flask, Neo4j, React and AWS.

Bangalore, India

Aug. 2020 - Sept. 2021

SOFTWARE DEVELOPER INTERN

- Learned Django and Bootstrap within 2 weeks to develop an interactive dashboard.
- Used AWS cloud Development Kit to construct the infrastructure and used AWS Lambda to trigger monthly AWS billing reports.

May 2020 - Jul. 2020

### Google Summer of Code, DeepMind/kapitan

STUDENT SOFTWARE DEVELOPER

- Technologies: Python, Multithreading, OOP, TravisCI, CI/CD, GCP, Azure, Docker, PyTest
- Made Pull Requests on GitHub to add new features along with unit tests to **Kapitan** and resolve pending issues.
- Enabled inventory reusability by programming a federated remote inventory system.
- Expanded secret management by integrating 2 secret backends for GCP Secret Manager and Azure KMS.

Remote

Jun. 2020 - Aug. 2020

## Projects

### Centaur - Unmanned Ground Vehicle | Design Report

ROBOTICS TEAM PROJECT | PYTHON | ROS | OS HARDENING | RISK MANAGEMENT | SSH | DHCP | DNS

- Worked in a group of 10 to securely develop an autonomous bot. Headed the Information Security division to make the bot NIST RMF compliant; Awarded the 5th place globally in the cyber challenge of the Intelligent Ground Vehicle Competition 2019 held at Oakland University MI, USA

### GetvacclIndia | GitHub Link

FULL-STACK APPLICATION | PYTHON | JAVASCRIPT | REDIS | CI/CD | MONGODB | CELERY | DOCKER | AWS EBS

- Developed a scalable external-link-alt vaccine email notification scheduler using Fastapi, MongoDB, Celery, React, AWS EBS for hosting and Redis as message broker. Catered to over 10,000 subscribers.

### Android Malware Detection based on Vulnerable Feature Aggregation | Paper Link

RESEARCH | ANDROID MALWARE · STATIC ANALYSIS · ML | PAPER PUBLISHED IN PROCEEDIA COMPUTER SCIENCE

- Proposed a novel approach of feature engineering by performing static analysis on android APKs by utilizing the Androguard API for python and achieved an ROC-AUC of 95.67%. Implemented ML and DL algorithms like Graph Convolution Network, Random Forest to detect malware.

## Skills

**Programming** Python · JavaScript · C++ · Bash · LaTeX

**Frameworks & Tools** FastAPI · React.js · Docker · Redis · Postgresql · MySQL · Neo4j · Pytorch · CI/CD · AWS · Git

**Certifications** Red Hat Certified Engineer · Red Hat Certified System Administrator · Certification ID: 180-207-482