Arindaam Roy

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Skills

Programming	Python · JavaScript · Bash · LaTeX
Frameworks & Tools	FastAPI · React.js · Docker · Redis · Postgresql · MySQL · Neo4j · Pytorch · CI/CD · AWS · Git
Certifications	RHCE · RHCSA · Certification ID: 180-207-482
Interests	Linux · Automation · Distributed Systems · Security · Robotics · Piano

Education

University of California Davis
Davis, CA

MSc in Computer Science
Sept. 2021 - Exp. May 2023

- Courses: Software Engineering, Distributed Database Systems
- 4.0/4.0 GPA

Delhi Technological University
Delhi, India

B.Tech in Information Technology
Aug. 2016 - May 2020

Work Experience

Kadmik (Early Stage EdTech Startup)
Remote

Core team member & backend engineer
Jan. 2021 - Sept. 2021

- Technologies: Python, Fastapi, Celery, Redis, Postgresql, MySQL, Websocket, REST apis, CatSim, AWS, Docker, OOP, Design Patterns
- Built the backend (Fastapi, Postgres, AWS) of **Kadmik** from scratch; Collaborated in a team of 3 for system architecture and api security.
- Programmed a multithreaded game engine and employed *Item Response Theory* models for adaptive questions; Built scalable REST APIs and websocket endpoints; 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.

ICICI Lombard General Insurance Co. Ltd
Bangalore, India

Senior Software Developer
Aug. 2020 - Sept. 2021

- 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.
- Worked in a team of 3 to design, build and deploy a microservice for a discount engine from scratch using Flask, Neo4j, React and AWS.

Google Summer of Code, DeepMind/kapitan
Remote

Student Software Developer
Jun. 2020 - Aug. 2020

- Technologies: Python, Multithreading, OOP, TravisCI, GCP, Azure, Docker, PyTest
- Kapitan is a generic configuration templating tool developed at DeepMind Health. My contributions can be viewed in this **GitHub Link**.
- Programmed a federated remote inventory system, a secret backend for GCP Secret Manager and Azure KMS.
- Modularized kapitan's PyPI packaging, constructed local CI/CD pipeline and added unit tests for all the implemented features.

ICICI Lombard General Insurance Co. Ltd
Remote

Software Developer Intern
May 2020 - Jun. 2020

- Technologies: Python, Django, REST apis, AWS, boto3, Lambda
- Learned Django and Bootstrap within 2 weeks to develop an interactive dashboard; Built a responsive web app to track billing of tagged services running on AWS.
- Used AWS cloud Development Kit to construct the infrastructure and used AWS Lambda to trigger monthly billing reports.

Projects

Centaur - Unmanned Ground Vehicle | **Design Report**

Robotics Team project | python | ROS | OS Hardening | Risk Management

- 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

GetvaccIndia | **GitHub Link**

full-stack application | Python | JavaScript | Redis | CI/CD | MongoDB | Celery

- Developed a scalable 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 Procedia 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.