Aadi Swadipto Mondal

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Education

University of Wisconsin - Madison, Wisconsin, United States *2021 – 2023*
MS (Hons.) in Computer Science *GPA - 4.00/4.00*

Indian Institute of Technology (IIT) Kharagpur, West Bengal, India *2017 – 2021*
B.Tech (Hons.) in Electronics and Electrical Communication Engineering *CGPA - 9.36/10*
Minor in Computer Science and Engineering

Professional Experience

Software Engineering Intern | Google *May'22-Aug'22*
Worked on VM-to-VM connection reliability in the Andromeda Software Defined Networking (SDN) Stack of Google. Added more than two thousand lines of code in the production code-base consisting of more than one million lines of code. Added 12 new features related to telemetry and test coverage. Introduced new monitoring capabilities and helped in early bug detection and resolution. C++ for core implementations and Python for visualization and monitoring.

Android Developer Intern | Jarvis Strategy and Consulting *Mar'21-Jun'21*
Developed an android app for on-ground survey by agents facilitating data collection using *Kotlin* and *Model-View-View-Model (MVVM)* architecture. Implemented a renovated UI/UX and expanded app capabilities to work offline and sync up when back online. Used state-of-the-art tools like *Retrofit* for network calls and *Android Room* for offline data storage.

Software Developer Intern | Honeywell Connected Enterprise (HCE) *Jun'20-Jul'20*
Developed visualization platforms for time-series data of *Atlassian JIRA & Confluence* from *InfluxDB* using *Grafana* and *ReactJS*. Deployed software on *Continuous Integration Continuous Development (CICD)* pipeline using *Atlassian Bit-bucket, Octopus,* and *Open-Shift*. Learned about *Docker containers* and *Kubernetes*.

Research Experience

Research Assistant | Analysis of DNS records *Aug'21-Present*
Advisor: Prof. Paul Barford
Empirical analysis of DNS structure, behavior and performance using novel data sets and techniques. The goal of this work is to develop broad and novel perspectives on *DNS* that lead to improvements in the systems and protocols used to configure, manage and secure the underlying infrastructure. Collaborators: Dr. Crovella and Dr. Sommers

Research Intern UoA | Sentiment Analysis of App Reviews in Google Play Store *Jun'20-Oct'20*
Guide: Prof. Kaushal Kumar Bhagat and Prof. Nasser Giacaman
Designed a *language model* based on *BERT* using *PyTorch* and *Transformers library* to systematically attach *sentiment labels* and *aspect labels* to the scrapped app reviews from Google Play Store. Compared the user dispositions of apps from different app categories to analyze the effectiveness of AR/VR for education in the form of android apps.

Analysis of COVID-19 spread in India using mobility-aware graph-based models *May'20-Oct'20*
Guide: Prof. Animesh Mukherjee, Prof. Mainack Mondal, and Prof. Abir De
Developed a *mobility-aware multi-agent simulation driven method* for estimation of COVID-19 spread which intrinsically takes care of factors like mutation of virus strains, asymptomatic cases, and other latent conditions.

Skills

- **Languages & Frameworks:** C++ | Go | Python | Java | ReactJS | Kotlin | Flask | Grafana | Docker
- **Databases & Others:** SQL | MongoDB | InfluxDB | Room | Firebase | Machine Learning

Publications

Evolution of Convolution Neural Network Architectures using Genetic Algorithm *2020*
Published in *2020, IEEE Congress on Evolutionary Computation (CEC)* [PDF]

Two-Sided Fairness in Non-Personalised Recommendations *2020*
Published in *AAAI Conference on Artificial Intelligence, 2021, Student Abstract* [PDF]

Competitions

Ves-AI-Thon by Capgemini *Jul'18*
Developed an android app for elderly care with in-app *emotion detector (Amazon Rekognition API)* and integrated *intelligent chat-bot (IBM Watson)*. Got featured in news/media body like *India Today*, *The Hindu*, *Hindustan Times*,etc.