# Aadi Swadipto Mondal

amondal5@wisc.edu · (+1) 6088866852 · silversword05

## 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*
Working on VM-to-VM inter-cluster connection reliability and congestion control in the Andromeda Software Defined Networking (SDN) Stack of Google. The project focuses on probing network paths to detect transient black-holes and changing network packet headers to re-route away from black-holes. Working with production deployed code to add new features and resolve existing bugs. 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. Used *Retrofit* for network calls and *View Binding* for compile-time binding class generation of XML layouts. Used *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*.

## 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.

## Skills

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