Sheiladitya Kumar

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EDUCATION

Trinity College Dublin | Master of Science in Computer Science — Sept 2022

University of Illinois Urbana-Champaign | Bachelor of Science in Statistics — May 2021

- ***Minor*** in Mathematics
- *Executive*, Poker Club; *Member*, American Nuclear Society

EXPERIENCE

Researcher — Jan. 2021 - May 2021

Illinois Geometry Lab|University of Illinois Urbana-Champaign | Champaign, IL

- Compiled and cleaned time series data into an efficiently processed multi index dataframe suitable for statistical analysis.
- Extracted and Analyzed spatiotemporal data to identify important locations and monuments to build geospatial features and identify differences in driver behavior between cars and taxis.
- Designed and Utilized machine learning architectures such as Recurrent Neural Networks to classify between cars and taxis based on processed features and statistics.

Course Assistant — Jan. 2020 - May 2020

ECE Department | University of Illinois Urbana-Champaign | Champaign, IL

- Graded and provided feedback on homeworks and quizzes to over 100 students in the Introduction to Electronic Circuits course while simultaneously managing a complete semester as a student.
- Worked alongside course instructors to ensure students experienced a smooth transition from in-person to fully online course structure after the impact of the COVID-19 pandemic in March 2020.

Research Assistant — July 2018 - Dec. 2019

Center for Plasma-Material Interactions | University of Illinois Urbana-Champaign| Champaign, IL

- Conducted experiments on plasma and laser etching for both government and commercial partners.
- Collected and analyzed experimental data, processed data into results ready for conference proceedings and publications.
- Worked with a diverse group of undergraduates, graduates and project leads while maintaining an effective workstream.

SKILLS

C#, Python, C++, R, Matlab, SAS, Linux/Unix | OS X | Windows | Microsoft Office (Excel, Word, etc.)

PROJECTS

A Recurrent Neural Network approach to Reproducing the Dynamics of Chaotic Systems

- Implemented various Recurrent Neural Network architectures implemented to capture the dynamics of the chaotic system in question, such as the Lorentz Attractor, the networks were able to successfully reproduce the system reaching accuracies greater than 99% on unseen data points after sufficient training durations. The network can accurately predict the future trajectory of the system after being shown the previous trajectory in the short to mid term.

Electron Temperatures and Ion Densities for Argon and Oxygen Based Radiofrequency Plasmas

- Investigated the relationship between gas pressures and electron temperatures of Oxygen and Argon based RF Plasmas to understand the dependence of gas pressures on Ion Densities. Motivated by the growing interest in dry etching and metal deposition, both of which are related to the Ion Densities of the plasmas.

Awards

Duke of Edinburgh International Award - Gold Award

Interests

Incredibly passionate about data, algorithms, AI, trading, game theory, and kinesics. Studied and played poker for many years.

Languages

English ●●●●●
Hindi ●●●●●
French ●●●○○