Ameya Anjarlekar

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Education

University of Illinois at Urbana-Champaign — **Research Advisor: R. Srikant**
PhD in Electrical and Computer Engineering ; ***GPA: 3.94/4*** — *(2022-present)*

Indian Institute of Technology, Bombay — **Mumbai, India**
Bachelor of Technology in Electrical Engineering (with minor in Computer Science); ***CPI: 9.64/10*** — *(2017-2021)*

Publications

- **Anjarlekar, A.**, Etesami, R., & Srikant, R. (2023). Striking a Balance: An Optimal Mechanism Design for Heterogenous Differentially Private Data Acquisition for Logistic Regression. (submitted to AAAI 24)
- **Ameya Anjarlekar** and Ajit Rajwade, "A weighted generalized coherence approach for sensing matrix design,"
- Peeyush Sahay, Izaz Ahamed Shaik Rasheed, Pranav Kulkarni, Shubham Anand Jain, **Ameya Anjarlekar**, P. Radhakrishna & Vikram M. G. Generalized Fractional Ambiguity Function and Its Applications. Circuits Syst Signal Process 39, 4980–5019 (2020)
- P. Sahay, **A. Anjarlekar**, S. A. Jain, P. Radhakrishna and V. M. Gadre, "Generalized Fractional Matched Filtering and its Applications," 2020 National Conference on Communications (NCC), Kharagpur, India, 2020

Industrial Experience

Quadeye Securities — **(June 2021 - May 2022)**
Quantitative Researcher — *Gurgaon,India*

- Responsible for the improvement and successful operations of trading strategies in 3 regions
- Worked on arbitrage-derived strategies to design high-frequency trading algorithms in the derivatives segment
- Designed new alphas to increase fill ratio in momentum-based strategies leading to higher **PnL**

Daikin Industries — **(June 2020)**
AI/IOT Engineer Intern — *Remote Internship*

- Developed a data-independent **Hitomi Camera**-inspired algorithm to achieve around **70% video data compression**. The compression performance was further improved for the case when training data is available
- Performed economic analysis to highlight and justify cost-saving after using the compression algorithm

Research Experience

Graduate Research Assistant — **(Aug 2022-present)**

- Used statistical learning to formulate an algorithm that ensures heterogeneous differential privacy for logistic regression
- Further used the above result along with results from **mechanism design** to design a payment mechanism that incentivizes data providers to share their privacy-sensitive data for ML tasks.

Technical Skills and Interests

Languages and Packages: Python, C, C++, Matlab, R, VHDL, Keil, Pytorch,Git, Bash
Research Interests: Differential Privacy, Mechanism Design, Deep Learning, Compressed Sensing

Academic Responsibilities

Department Academic Mentor, IIT Bombay

- Mentoring **6** sophomore students by providing academic guidance and help in other non-academic issues

Teaching Assistant

- **IIT Bombay:** Responsible for conducting tutorial sessions and grading for **PH 108** (Electricity and Magnetism), **MA 108** (Differential Equations I) and head TA for **MA 207** (Differential Equations II)
- **UIUC:** Responsible for conducting office hours and grading for **ECE 490** (Introduction to Optimization)

Achievements

- Awarded **Undergraduate Research Award** (URA-01) by IIT Bombay
- Awarded the 'Institute Technical Special Mention' by IIT Bombay for work in the IITB Mars Rover Team
- Completed 1 year **National Cadet Corps** (youth wing of the Indian Army) training