DEBOPAM SANYAL

Email: dsanyal7@gatech.edu; Website: https://riksanyal.github.io

EDUCATION

Georgia Institute of Technology   Atlanta, GA
- **Ph.D.** in *Computer Science*   Aug '22 – present

University of Illinois Urbana-Champaign   Urbana, IL
- **M.S.** in *Computer Science*   Aug '20 – May '22
- **B.S.** in *Computer Engineering*, Minor in *Mathematics*   Aug '16 – May '20

RESEARCH/INDUSTRY EXPERIENCE

- **Graduate Research Assistant**, **School of Computer Science, Georgia Tech**   Atlanta, GA
  Advisor: Prof. Alexey Tumanov [SCS, Georgia Tech]   Aug '22 – present
  GRA in Systems for Artificial Intelligence Lab (SAIL)
  GTA - Systems for Machine Learning (CS 8803-SMR), Design & Analysis of Algorithms (CS 3510)
  Foundation model optimization; Efficient and private ML inference

- **Research Intern**, **Lawrence Berkeley National Laboratory**   Berkeley, CA
  Mentor: Dr. Lavanya Ramakrishnan [CRD, LBNL]   Summer '22; Summer '21
  Key-phrase generation for scientific documents; Unsupervised metadata extraction

- **Graduate Research Assistant**, **Dept. of Computer Science, UIUC**   Urbana, IL
  Advisor: Prof. Sibin Mohan [CS Dept., UIUC]   Aug '20 – May '22
  GRA in Systems Security Research Group (SyNeRCyS)
  GTA - Discrete Structures (CS 173), Database Systems (CS 411)
  Security in Real-Time Systems; Networking using P4 programming

- **Applied Research Intern**, **eBay**   San Jose, CA (Remote)
  Supervisor: Dr. Sanjika Hewavitharana [ML-NLP Group]   Summer '21
  Title generation for data-efficient classifiers; Recommendation system using language style transfer

- **Software Development Intern**, **Panasonic**   Champaign, IL (Remote)
  Supervisor: Prof. Reza Farivar [CS Dept., UIUC]   Summer '20
  Predictive modeling and chatbots for troubleshooting machines

- **Research Intern**, **National Center for Supercomputing Applications**   Urbana, IL
  Mentor: Prof. Nigel Bosch [iSchool, UIUC]   Jun '19 – May '20
  Deep neural network model selection with application-specific metrics

  Mentor: Dr. Roland Haas [Gravity Group, NCSA]   Aug '18 – May '19
  Comparing methods to extrapolate gravitational waves in Numerical Relativity

- **Research Intern**, **Qatar Computing Research Institute**   Doha, Qatar
  Mentor: Dr. Muhammad Imran [Crisis Computing Team]   May – Jul '17
  Online topic identification from social media text streams

PUBLICATIONS/MANUSCRIPTS

Preprint [arXiv] **"Pareto-Secure Machine Learning (PSML): Fingerprinting and Securing Inference Serving Systems"**
Debopam Sanyal, Jui-Tse Hung, Manav Agrawal, Prahlad Jasti, Shahab Nikkhoo, Somesh Jha, Tianhao Wang, Sibin Mohan, **Alexey Tumanov**
Preprint on arXiv (2307.01292).

Thesis [Masters] **"Attacking Schedule Indistinguishability in Real-Time Systems"**
Debopam Sanyal
Appears in *Graduate Dissertations and Theses at Illinois*. Illinois Digital Environment for Access to Learning and Scholarship (IDEALS), University of Illinois Urbana-Champaign.

Conference [CCS 2021] **"Indistinguishability Prevents Scheduler Side-Channels in Real-Time Systems"**
C. Y. Chen, **Debopam Sanyal**, Sibin Mohan
Published in the *ACM Conference on Computer and Communications Security (CCS)*, 2021. Special Interest Group on Security, Audit and Control (SIGSAC) of the Association for Computing Machinery (ACM).

Conference [EDM 2020] **"Feature selection metrics: Similarities, differences, and characteristics of the selected models"**
Debopam Sanyal, Nigel Bosch, Luc Paquette
Published in the *International Conference on Educational Data Mining (EDM)*, 2020. International Educational Data Mining Society.

Thesis [Bachelors] **"Optimizing Network Approaches using P4 Programming"**
Debopam Sanyal
Appears in *Senior Theses – Electrical and Computer Engineering – The best of ECE undergraduate research*. Illinois Digital Environment for Access to Learning and Scholarship (IDEALS), University of Illinois Urbana-Champaign.

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SELECTED HONORS/AWARDS

- Selected for the Heidelberg Laureate Forum 2022, Heidelberg Laureate Forum Foundation — Apr '22
- Sustainable Research Pathways Fellowship, Sustainable Horizons Institute — Mar '21
- Fiddler Innovation Undergraduate Fellowship, National Center for Supercomputing Applications — Sep '19
- Third Place at Engineering Open House 2019, UIUC — Mar '19
- First Place Project Award, Qatar Computing Research Institute — Jul '17

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POSTERS/TALKS/PRESENTATIONS

- Computing Sciences Summer Program Poster Session, Lawrence Berkeley National Laboratory — Aug '22, Aug '21
- Sustainable Research Pathways Student Poster Session, Sustainable Horizons Institute — Dec '20
- NCSA Summer Research Poster Session, National Center for Supercomputing Applications — Jul '19
- SPIN Lightning Talks, National Center for Supercomputing Applications — Nov '19, Jul '19, Nov '18