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 Aashish Kolluri

 Google Scholar

# Aashish Kolluri

## Education

2018–2023\* **PhD**, National University Of Singapore, Singapore, with Prateek Saxena

2013–2017 **BTech.**, Indian Institute of Technology Kanpur, India

## Key Research Interests/Topics

Machine Learning over Graphs, Federated Learning, Differential Privacy, Program Synthesis & Debugging.

## Publications

### Preprints

2023 [Aashish Kolluri](#), Sarthak Choudhary, Bryan Hooi, Prateek Saxena, *RETEXO: Scalable Neural Network Training over Distributed Graphs* : **Under Review** arXiv:2302.13053

### Published

2023 Bo Wang, [Aashish Kolluri](#), Ivica Nikolic, Teodora Baluta, Prateek Saxena, *User-Customizable Transpilation for Scripting Languages*: **OOPSLA'23**

2022 [Aashish Kolluri](#), Teodora Baluta, Bryan Hooi, Prateek Saxena, *LPGNet: Link Private Graph Networks for Node Classification*: **CCS'22**(21.8% acc.rate)

2021 [Aashish Kolluri](#), Teodora Baluta, Prateek Saxena, *Private Hierarchical Clustering for Federated Networks*: **CCS'21**(approx 18% acc.rate)

2021 Bo Wang, Teodora Baluta, [Aashish Kolluri](#), Prateek Saxena, *SYNGUAR: Guaranteeing Generalization in Programming by Examples*: **ESEC/FSE'21**(24.5% acc.rate)

2021, **Best-Paper** Shiqi Shen, [Aashish Kolluri](#), Zhen Dong, Prateek Saxena, Abhik Roychoudhury, *Localizing Vulnerabilities Statistically From One Exploit*: **AsiaCCS'21**(18.4% acc.rate)

2019 [Aashish Kolluri](#), Ivica Nikolic, Ilya Sergey, Aquinas Hobor, Prateek Saxena, *Exploiting the laws of order in smart contracts*: **ISSTA'19** (slides|artifact) (20.4% acc.rate)

2018 Ivica Nikolic, [Aashish Kolluri](#), Ilya Sergey, Prateek Saxena, Aquinas Hobor, *Finding The Greedy, Prodigal, and Suicidal Contracts at Scale*: **ACSAC'18** (slides|artifact)(20.1%)

2018 Sourav Das, [Aashish Kolluri](#), Prateek Saxena, Haifeng Yu (alphabetical order of last name), *Invited Paper - on the Security of Blockchain Consensus Protocols*: **ICISS'18**

### Posters

2023 [Aashish Kolluri](#), Jacob Imola, Amrita Roy Chowdhury, *Per-User Heavy-Hitter under LDP*: **Usenix Security'23**

## Technical skills

Advanced Python, PyTorch, Federated learning (FederatedScope, Flower), Graph learning (DGL)

Intermediate C/C++, TensorFlow, Speech foundation models (Fairseq), KLEE, Z3, Solidity

## Industry R&D Experience

- June–Sep '23 **Nokia Bell Labs**, with *Mohammad Malekzadeh*, in United Kingdom  
Data-efficient and multi-modal deep learning on time-series data
- May–July '20 **Aqilliz**, with *Edison Lim*, in Singapore  
Design of the internal privacy platform in Aqilliz for differentially private data analyses
- May–July '16 **Flipkart Internet Pvt. Ltd.**, with *Vijayant Singh*, in India  
Project JIRO-Anomaly Detection for Flipkart Cloud's Alerting Service

## Teaching

- Spring 2019 **Introduction to Computer Security**, CS 3235  
Fall 2019 **Systems Security**, CS 5231

## Conference/Journal Reviewer

- 2022 **Transactions on Dependable and Secure Computing**, TSDC'22  
2021 **International Symposium on Information Theory**, ISIT'21  
Sub-Review **USENIX'21, CCS'21**

## Achievements

- 2021 **Best paper award**, AsiaCCS'21
- 2011–2013 **Scholastic**
- **ALL INDIA RANK 286 (99.998 percentile)** in JEE-Advanced 1,300,000 candidates
  - K.V.P.Y(Kishore Vaigyanik Protsahan Yojana) scholarship, **175th among 150,000 candidates**

## Talks & Panels

- May 2023 **Retexo: Scalable Neural Network Training on Fully-Distributed Graphs**, *Flower.io*, Invited Talk
- Nov 2022 **LPGNet: Link Private Networks for Node Classification**, *Google*, Invited-Internal Talk
- July 2021 **LPGNet: Link Private Networks for Node Classification**, *ETH Zurich*, Invited Talk
- July 2021 **Private Hierarchical Clustering in Federated Networks**, *Brave Research*, Invited Talk
- August 2019 **Panel - Industry/Academics after PhD: prospects and challenges**, @ *NUS*, Moderator
- August 2019 **Exploiting the Laws of Order in Smart Contracts**, @ *Resarch Week, NUS*, Invited talk
- June 2018 **Blockchain Fundamentals - Smart Contract Security**, @ *Zilliqa*, Invited talk
- May 2018 **Smart Contract Security: Hacking 34,200 Smart Contracts**, @ *Paypal Innovation Labs, Singapore*, Invited talk

## References

- Prateek Saxena Associate Professor, National University of Singapore, prateeks@comp.nus.edu.sg
- Bryan Hooi Assistant Professor, National University of Singapore, bhooi@comp.nus.edu.sg
- Abhik Roy-choudhury Provost's Chair Professor, National University of Singapore, abhik@comp.nus.edu.sg