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Education

- **University of California, Irvine** 09. 2018 –
  PhD in Computer Science. GPA:3.6/4.0
- **Beijing University of Posts and Telecommunications** 09. 2014 – 06. 2018
  B.ENG in Electronic Information Engineering. GPA:3.5/4.0

Relevant Courses: Algorithms, Deep Generative Model, Graphical Model, Mobile Data Privacy, Computer Networks, Networking Lab, Cryptography, Machine Learning, Middleware Network and Distributed Systems

Experience

- **UC Irvine, Networking Lab** 01.2019 - present
  Graduate Research Student
  - Working on mobile data privacy, with a focus on **Distributed Learning** and **Differential Privacy**.
- **Beijing Jiu Heng Technology** 03.2018 - 08.2018
  Software Engineer Intern
  - Revamped the entire back-end structure of a digital currency trading platform to support trading strategies on popular exchanges using **Golang**.
  - Developed **REST** and **Websocket API** rapidly for cryptocurrency trading on top 20 popular exchanges.
  - Programmed and upgraded a distributed data scraping platform to extract real-time structured data from exchanges using **Golang&Elasticsearch**.
  - Devised a crawler to track various kinds of coins' historical information with **Python&MongoDB**.
- **California Institute of Technology, LIGO Lab** 06.2017 - 08.2017
  Summer Undergraduate Research Student
  - Worked with team of 12 physicists to extract and analyze data from remote data center to local computing center to improve performance of data processing pipelines.
  - Accelerated existing gravitational wave detection algorithm using **Parallel Computing** techniques with **C++&CUDA** on **GPU**. Achieved about 30-fold speed-up over original implementation.

Projects

- **RL Based Network Routing System**:
  - Assembled a **distributed large-scale wireless network** simulation system using **Python&Matlab**, in order to achieve adaptability for fast changing network topology.
  - Developed an intelligent routing protocol based on optimized **Q-learning** algorithms to balance traffic efficiently. Reproduced **OSPF v2** protocol for performance comparison.
- **Secure Mobile Federated Learning System**:
  - Built a **mobile network security and privacy** testing platform. Designed classifiers to detect mobile network trackers and Ads by analyzing data from **packets' HTTP/S and IP headers**.
  - Simulated **Federated Learning** platform for collaborative image classification on distributed systems. Significant classification accuracy improvements were achieved on MNIST and AT&T datasets with 50 local training models.
  - Implemented **DCGAN** to obfuscate sensitive user information. Developed **Differential Privacy** methods for privacy-preserving federated learning.

Skills

Programming Languages: Python, C/C++, Java, JavaScript, Golang, HTML5/CSS3, SQL
Data Science: generative model, decision trees, clustering, regression, probabilistic learning, neural network, numpy, pandas, scikit
Frameworks&Tools: Django, Flask, Express, React, Redux, Tensorflow, Node.js, Docker, Kubernetes, AWS, Git, Hadoop, MongoDB, Redis, MySQL

Publications

GPU-acceleration on a low-latency binary-coalescence gravitational wave search pipeline.
Computer Physics Communications, Volume 231, p. 62-71. 2018