Chenda Duan

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Education

University of California, Los Angeles (UCLA) **Expected 2024.09 – Expected 2029.06**

Doctor of Philosophy in Electrical and Computer Engineering Los Angeles, CA

- **Advisor:** Vwani Roychowdhury

University of California, Los Angeles (UCLA) **2022.09 – 2024.06**

Master of Science in Computer Science Los Angeles, CA

- **GPA: 3.889/4.0**
- **Teaching Assistant:** Computer Organization, Computer Graphics
- **Associate Instructor:** Lab on Digital Design
- **Research:** UCLA Zhou's Lab
- **Core Courses:** Computer Architecture, Cloud Computing, Data Mining, Adversarial Robustness, Reinforcement Learning.

University of California, Los Angeles (UCLA) **2019.09 – 2022.06**

Bachelor of Science in Computer Science Los Angeles, CA

- **GPA: 4.0/4.0**
- **Honor**: Summa Cum Laude, Dean's Honors List
- **Learning Assistant:** Introduction to Computer Science
- **Research:** UCLA Center for Neurobehavioral Genetics, UCLA Structure-Computer Interaction Lab
- **Core Courses**: Probability, Linear Algebra, Algorithms, Software Engineering, Database, Computer Organization&Architecture, Computer Vision, Operating Systems, Network, Programming Languages

Research / Work Experience

UCLA Zhou's Group **2022.03 – 2024.6**

Student Research Assistant - Prof Bolei Zhou's Lab Los Angeles, CA

- Developed a question-anwser (QA) dataset for traffic scenraios. Modified existing traffic simulation environment and built a framework for automactic QA generation
- Developed a simulation environment for urban sidewalks. Built a dataset based on the environment.
- Developed a new optimization method named Proxy Value Propagation. The new optimization method enables programs to be able to accept and adapt from human demonstrations, achieves higher efficiency and safety.
- Built and tested a platform for traffic scenario modeling and simulation for testing traffic-releated algorithms.

UCLA Center for Neurobehavioral Genetics **2020.06 – 2022.6**

Student Research Assistant - Prof Roel Ophoff's Lab Los Angeles, CA

- Processed and analyzed biological data, leveraging advanced statistical methods.
- Executed data visualization and data analysis to elucidate patterns and insights from the RNA sequences.

UCLA Structure-Computer Interaction Lab **2020.06 – 2022.6**

Researcher – Prof M. Khalid Jawed's lab Los Angeles, CA

- Developed a 2D lidar road navigation algorithm to improve the accuracy of a navigation system while maintaining a low cost.
- Deployed road navigation on low-cost weed-control platform, using C++.
- Designed a method to determine key physical parameters for flexible device, improving the efficiency of parameter collection by 90%.

Publication

- Zhenghao Peng, Wenjie Mo, **Chenda Duan**, Quanyi Li, Bolei Zhou, "Learning from Active Human Involvement through Proxy Value Propagation". Neural Information Processing Systems 2023.
  - Presents an optimization method named Proxy Value Propagation. The new optimization method enables programs to be able to accept and adapt from human demonstrations, achieves higher efficiency and safety
- Quanyi Li, Zhenghao Peng, Lan Feng, Zhizheng Liu, **Chenda Duan**, Wenjie Mo, Bolei Zhou , "ScenarioNet: Open-Source Platform for Large-Scale Traffic Scenario Simulation and Modeling". Neural Information Processing Systems 2023 (Datasets and Benchmarks Track).

- Develops an all-in-one platform for traffic scenario modeling and simulation. And a dataset collect using the platform and the simulation.

- Tommer Schwarz, Toni Boltz, Kangcheng Hou, Merel Bot, **Chenda Duan**, Loes Olde Loohuis, Marco P. Boks, René S. Kahn, Roel A. Ophoff, Bogdan Pasaniuc, "Powerful eQTL mapping through low coverage RNA sequencing". Human Genetics and Genomics Advances 2022.
  - Proves that lowering the RNA sequencing depth per sample (low coverage) and increasing the number of individuals will not affect the eQTL result.
- Toni Boltz, Tommer Schwarz, Merel Bot, Kangcheng Hou, Christa Caggiano, Sandra Lapinska, **Chenda Duan**, Marco P Boks, Rene S Kahn, Noah Zaitlen, Bogdan Pasaniuc, Roel Ophoff, "Cell type deconvolution of bulk blood RNA-Seq to reveal biological insights of neuropsychiatric disorders". European Neuropsychopharmacology 2022.
  - Proves that instead of using single-cell RNA-Seq, using bulk blood RNA-Seq with cell type deconvolution methods can achieve comparable results in most of the downstream tasks.

Technical Skill

Programming

- Lanuages: Proficient in Python, C++, Java, SQL, and R for development and data analysis
- Front End: Familiar with JavaScript and React for web development and interactive applications.
- Others: GIT, Docker, Familiar with Computer Grapchis Pipelines.