Aaron Lou

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Education

Stanford University Sep 2021 -
PhD in Computer Science

Cornell University Aug 2017 - May 2021
B.A. in Computer Science, B.A. in Mathematics
GPA: 3.96/4.0

Conference Publications

Aaron Lou*, Derek Lim*, Isay Katsman*, Leo Huang*, Qingxuan Jiang, Ser-Nam Lim, & Christopher De Sa. "Neural Manifold Ordinary Differential Equations". In *NeurIPS 2020: Thirty-fourth Conference on Neural Information Processing Systems*, December 2020.

Aaron Lou*, Isay Katsman*, Qingxuan Jiang*, Serge Belongie, Ser-Nam Lim, & Christopher De Sa. "Differentiating through the Fréchet Mean". In *ICML 2020: the Thirty-seventh International Conference on Machine Learning*, July 2020.

Workshop Publications

Aaron Lou, Maximilian Nickel, Brandon Amos. "Deep Riemannian Manifold Learning". Will appear at *DiffGeo4DL 2020: NeurIPS workshop on Differential Geometry meets Machine Learning,* Dec 2020.

Horace He, **Aaron Lou***, Qingxuan Jiang*, Isay Katsman*, Serge Belongie, & Ser-Nam Lim. "Adversarial Example Decomposition". In *SPML 2019: ICML Workshop on Security and Privacy in Machine Learning,* June 2019.

In Submission

Isay Katsman*, **Aaron Lou***, Derek Lim*, Qingxuan Jiang*, Ser-Nam Lim, & Christopher De Sa. "Equivariant Manifold Flows". Submitted to *GTRL 2021: ICLR workshop on Geometric and Topological Representation Learning,* Feb 2021.

Research Experience

Facebook AI May 2020 - Aug 2020
Research Intern | New York, NY

- Manifold learning w/ Dr. Brandon Amos & Dr. Maximilian Nickel
- Topology and data augmentation w/ Dr. Ser-Nam Lim.

Cornell University Artificial Intelligence Aug 2018 - Present
Undergraduate Researcher | Ithaca, NY

- Geometric machine learning w/ Prof. Christopher De Sa.
- Adversarial examples w/ Prof. Serge Belongie & Dr. Ser-Nam Lim.

Industry Experience

Google May 2019 - Aug 2019
Software Engineering Intern | Mountain View, CA

- Google Maps incognito mode w/ Satwika Sarkar

Invited Talks

Normalizing Flows on Manifolds Nov 2020
Guest lecture for Stanford CS 468

Neural Manifold Ordinary Differential Equations Jul 2020
Spotlight talk at ICML INNF+ Workshop

Awards

NSF Graduate Research Fellowship	Mar 2021
ICPC North American Championship Bronze Medal	Feb 2020
ICPC Greater New York Regional Champion	Oct 2019
Putnam Exam Top 250	Dec 2018
Cornell Freshman Math Exam Champion	May 2018

Teaching

CS 5199 (Competitive Programming) TA	Fa, Sp 2019
CS 2802 (Honors Discrete Structures) TA	Sp 2019

Mentorship

Cornell University Artificial Intelligence May 2020 - Present
Co-president | Ithaca, NY

- Led organization in promoting and providing resources for undergraduate research in machine learning.
- Outlined research agenda and mentored team members.
- Organized reading groups in specialized topics.

Service

NeurIPS Reviewer	2021
ICML Secondary Reviewer	2021
NeurIPS DiffGeo4DL Workshop Reviewer	2020
NeurIPS Secondary Reviewer	2020

Coursework

15 PhD-level courses completed during undergraduate at Cornell, including the core graduate math curriculum (corresponds to qualifying exam).