# Jerred L. Chen

Oxford, UK | +1 (713)-240-7535 | jerred.chen@cs.ox.ac.uk | jerredchen.github.io | US Citizen

## EDUCATION

**University of Oxford** Oct. 2023 – Present
PhD in Computer Science

**Georgia Institute of Technology** Aug. 2018 – May 2023
BSc in Computer Science
BSc in Mechanical Engineering

Relevant Coursework: Geometric Deep Learning, Computer Vision, Robotics and Perception

## PEER-REVIEWED PUBLICATIONS

Jerred Chen and Ronald Clark. "Image as an IMU: Estimating Camera Motion from a Single Motion-Blurred Image". *International Conference of Computer Vision (ICCV)*, 2025.

## UNDERGRADUATE PAPERS

Jerred Chen and Frank Dellaert. "A1 SLAM: Quadruped SLAM using the A1's Onboard Sensors". *arXiv preprint arXiv:2211.14432*, 2022.

Jerred Chen, Xiangcheng Hu, Shicong Ma, Jianhao Jiao, Ming Liu, and Frank Dellaert. "FAST-LIO, Then Bayesian ICP, Then GTSFM". *arXiv preprint arXiv:2210.00146*, 2022.

Shu Wang, Xuejian Gong, Mulang Song, Cindy Y. Fei, Stefan Quaadgras, Jianyuan Peng, Pan Zou, Jerred Chen, Wei Zhang, and Roger Jiao. "Smart dispatching and optimal elevator group control through real-time occupancy-aware deep learning of usage patterns". *Advanced Engineering Informatics*, 2021.

## RESEARCH EXPERIENCE

**PhD Candidate,** *PIXL - University of Oxford* Oct. 2023 – Present
*Supervisor: Prof. Ronald Clark*

- Researching the intersection between machine learning and 3D computer vision
- Demonstrated how to estimate camera motion from a single motion-blurred image using a neural network (ICCV Oral 2025, Oxford CS Departmental Conference Best Poster Award)
- Devised novel covariance-based local reference frame approaches to obtain invariant features for molecular property prediction using graph neural networks (marks for Distinction)

**Undergraduate Researcher,** *Borglab - Georgia Tech* Aug. 2021 – Aug. 2022
*Supervisor: Prof. Frank Dellaert*

- Developed a factor graph PoseSLAM algorithm for the A1 quadruped robot using GTSAM, publicly available as a rospackage to use for any A1 quadruped. Achieved up to 10x less error compared to Cartographer against recorded motion captured trajectory baselines.
- Contributed to a novel SLAM pipeline to compete in the Hilti SLAM Challenge. Implemented a factor graph PoseSLAM algorithm, with computed constraints passed into a SfM pipeline to refine pose estimates. Placed in the top 10 teams internationally.

**NSF REU Trainee,** *Data Driven Computing REU - University of Houston* June 2020 – Aug. 2020
*Supervisor: Prof. Shou-Hsuan (Stephen) Huang*

- Developed an anomaly detection algorithm to detect malicious users who conceal their identity by SSHing into intermediate hosts. Received 2nd Best Final Research Presentation.

**Undergraduate Researcher,** *LIDAR Group - Georgia Tech* Aug. 2019 – May 2021
*Supervisor: Prof. Ye Zhao*

- Integrated a manipulation grasping neural network into depth-sensing pipeline with Intel depth camera.

**Undergraduate Researcher,** *Dr. Roger Jiao's Lab - Georgia Tech* Aug. 2018 – May 2019
*Supervisor: Prof. Jianxin (Roger) Jiao*

- Designed simulations to verify the optimization performance of the smart elevator pipeline in Simio.

## INDUSTRY EXPERIENCE

**Navigation and Sensor Fusion Intern,** *Draper Laboratory* May 2021 – Aug. 2021

- Experimented with redesigning a factor measurement model to improve the factor graph navigation algorithm. Processed sensor data signals with filtering mechanisms including cross correlation and Bayesian likelihoods.
- Benchmarked performance metrics between various navigation algorithms to denote potential sources for improvement. Concluded the resulting performance of navigation algorithms given constraints on hardware and software. Operated under the Agile development workflow to develop the benchmarks.

## TEACHING EXPERIENCE

**Lead Demonstrator,** *University of Oxford* Oct. 2024 – Present

- Led practicals for a total of 200 undergraduate and masters students in the Artificial Intelligence and Imperative Programming courses.

**PMP Teaching Assistant,** *University of Oxford* Nov. 2023 – Mar. 2024

- Demonstrated practicals for the deep learning and computer vision modules in Oxford's Software Engineering Professional Masters Programme. Taught and designed practicals with intent for real world practical applications.

**Robotics and Perception Teaching Assistant,** *Georgia Tech* Aug. 2021 – May 2022

- Led the design for the autonomous driving PoseSLAM project. Held office hours, graded assignments, and was responsible for answering any student questions on factor graphs and GTSAM.

## LEADERSHIP/SERVICE

**Volunteer,** *Food4Lives - Atlanta, GA* Jan. 2022 – April 2023

- Cooked and prepared vegetarian meals to feed approximately 50-75 people. Distributed freshly cooked lunches to the homeless in the local Atlanta area. Led the distribution of meals for volunteer newcomers.

**Resident Assistant,** *Georgia Tech Department of Housting and Residence Life* Aug. 2019 – May 2021

- Served as veteran RA on staff to demonstrate how to properly handle difficult on-duty situations. Cooperated with other RAs to maintain a sense of safety and community within the residence halls.

## TECHNICAL SKILLS

**Languages:** Python, CUDA, MATLAB, Java, C, C++, Javascript, HTML/CSS
**Deep Learning:** PyTorch
**Robotics:** ROS, GTSAM
**Version Control:** Git
**Typesetting:** LaTeX
**OS Systems:** Linux (Ubuntu)

## HONORS AND AWARDS

Oral Presentation (top 2%), *International Conference of Computer Vision (ICCV)* Oct. 2025
Best Poster Award, *University of Oxford CS Departmental Conference* June 2025
Teaching Assistant Scholarship, *University of Oxford* May 2024 – May 2025
Faculty Honors, *Georgia Institute of Technology* Dec. 2018 – May 2022
2nd Best Final Research Presentation, *University of Houston REU* Aug. 2020
Victoria and Sherman Glass Scholarship, *GT Houston Alumni Club* May 2018