Jonathan Gustafsson Frennert

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Education

University of Manchester, Doctor of Philosophy — 2024 – 2028
Thesis: *AI-Driven Design with Application to Soft Robotics* — *Manchester, UK*
Supervisors: Wei Pan, Charlie C.L. Wang and Rika Antonova
Department of Computer Science (UKRI AI CDT)

University of Edinburgh, Master of Informatics — 2019 – 2024
School of Informatics — *Edinburgh, UK*

California Institute of Technology, Exchange Program — 2021 – 2022
Division of Engineering and Applied Science — *Pasadena, USA*

Publications

1. Connor Lee, Jonathan Gustafsson Frennert, Lu Gan, Matthew Anderson, and Soon-Jo Chung. Online self-supervised thermal water segmentation for aerial vehicles. *IEEE International Conference on Intelligent Robots and Systems (IROS)*, 2023

Research

University of Cambridge, Research Assistant — 06/2024 – 09/2024
Supervisor: Amanda Prorok — *Cambridge, UK*
Department of Computer Science and Technology

Digital Twin environments for ML-based social navigation

University of Edinburgh, UKRI Research Internship — 06/2023 – 09/2023
Supervisor: Subramanian Ramamoorthy — *Edinburgh, UK*
School of Informatics

Robustness testing for vision models in autonomous driving

University of Edinburgh, IPAB Research Internship — 07/2022 – 09/2022
Supervisor: Subramanian Ramamoorthy — *Edinburgh, UK*
School of Informatics

Non-prehensile robot manipulation

California Institute of Technology, Research Assistant — 09/2021 – 06/2022
Supervisor: Soon-Jo Chung — *Pasadena, USA*
Division of Engineering and Applied Science

Online self-supervised thermal water segmentation for aerial vehicles

University of Edinburgh, EPSRC Research Internship — 06/2021 – 08/2021
Supervisor: Desmond Higham — *Edinburgh, UK*
School of Mathematics

Stochastic models for social network opinion dynamics

Teaching

Teaching Support

Edinburgh INFR11213: Advanced Robotics — Fall 2023

Edinburgh INFR08029: Object-Oriented Programming — Spring 2023

Edinburgh INFR08020: Cognitive Science — Spring 2021

Edinburgh INFR08025: Introduction to Computation — Fall 2020

Honours and Awards

IROS Best Paper Award Finalist [1] — 2023

Professional Service

Reviewer

IEEE Transactions on Robotics (T-RO) 2025

IEEE International Conference on Robotics and Automation (ICRA) 2025

Technical Skills

Programming Languages	Python, Matlab, C/C++, Java, Haskell
Software Tools	Git, Docker, Slurm
Machine Learning	Jax, PyTorch, TensorFlow
Robotics	ROS, Gazebo, NVIDIA Warp