

Andrew Jong

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Education

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| <p>PhD Carnegie Mellon University, Robotics</p> <ul style="list-style-type: none"> Member of AirLab (UAS intelligent autonomy) and AART lab (multi-agent coordination). Coursework: Planning; SLAM; Deep Computer Vision; Machine Learning; Kinematics, Dynamics, and Control. Degree expected May 2027. | <p>Pittsburgh, PA
Aug 2023 – May 2027</p> |
| <p>MS Carnegie Mellon University, Robotics</p> <ul style="list-style-type: none"> Member of AirLab (UAS intelligent autonomy) and AART lab (multi-agent coordination). | <p>Pittsburgh, PA
Aug 2020 – May 2023</p> |
| <p>BS San Jose State University, Computer Science</p> <ul style="list-style-type: none"> Artificial intelligence specialization; mathematics minor. Graduated with Honors; Summa cum Laude. | <p>San Jose, CA
Aug 2016 – Dec 2019</p> |

Experience

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| <p>FieldAI, Research Scientist Intern</p> <ul style="list-style-type: none"> Leading research to push frontiers of embodied AI agents and human-robot interaction through vision-language action models and spatial AI. | <p>Irvine, CA
May 2026 – present
3 months</p> |
| <p>Carnegie Mellon University, Robotics Institute, Graduate Research Student</p> <ul style="list-style-type: none"> Wildfire Tracking: developed informative path planning algorithms (RRT, MCTS, and learning-based planners) for wildfire monitoring from UAS; deployed an NVIDIA Jetson Xavier NX and FLIR thermal camera on a DJI M600 drone tested over real prescribed wildland fires in Pennsylvania; led a team of 8 students; led development of the world's first high-fidelity wildfire simulator in AirSim simulating thermal signatures in a 3D fire environment; led writing of a grant awarded \$1.2M over 3 years by the NSF National Robotics Initiative. UAS Reconnaissance: searched and tracked vessels at sea via UAS; developed a particle filter to track target belief; trained a YOLOv5 vision network on simulated ship data; used a Kalman Filter to estimate vessel odometry; developed an informed RRT-based algorithm. Multi-drone Subject-Tracking in the Wild: developed UAS algorithms to track and film dynamic outdoor subjects and perform 3D reconstruction of subject motion; implemented drone-to-drone communication via DDS and ROS (second-author paper at IROS 2021). | <p>Pittsburgh, PA
Aug 2020 – present
6 years</p> |
| <p>Sensebrain, Inc., Research Intern: Computational Photography</p> <ul style="list-style-type: none"> Applied deep learning to demosaicing in image signal processing pipelines; trained networks in PyTorch and designed loss functions to reduce reconstruction artifacts. Optimized low-level networks with Halide and OpenCL; deployed to mobile DSP, NPU, GPU, and CPU. | <p>San Jose, CA
Jan 2020 – May 2020
5 months</p> |
| <p>San Jose State University, Dept. of Computer Science, Research Assistant: GANs for Virtual Try-on</p> <ul style="list-style-type: none"> Supervised by Dr. Teng-Sheng Moh; reimplemented the leading virtual try-on paper (SwapNet) from scratch in PyTorch. Showed that video input achieves comparable results with less training data; published at HPCS 2019. | <p>San Jose, CA
Aug 2019 – May 2020
10 months</p> |

<p>FitLens, Inc., Research Engineer: Exercise Tracking with Computer Vision</p> <ul style="list-style-type: none"> Lead developer on a prototype that tracks exercise and human form from a webcam, calculating correctness relative to an exercise coach, counting reps, and giving real-time feedback. 	<p>Foster City, CA Sept 2018 – Apr 2019 8 months</p>
<p>Stanford University, CSLI, Research Assistant: NLP Network Architectures</p> <ul style="list-style-type: none"> Supervised by Dr. Christopher Potts and Ignacio Cases; evaluated novel NLP architectures modeling hierarchical compositionality, using reinforcement learning to route multi-task compositionality. 	<p>Stanford, CA June 2018 – Aug 2018 3 months</p>
<p>NASA Ames Research Center, Research Associate: Computer Vision for Biology</p> <ul style="list-style-type: none"> Supervised by Dr. Joshua Alwood; trained CNNs to analyze reproductive tissue health, used Bayesian optimization for hyperparameter search and GANs for augmentation; achieved 200x speedup over manual methods. 	<p>Moffett Field, CA May 2018 – Sept 2018 5 months</p>
<p>NASA Ames Research Center, Software Engineering Intern: Web Development</p> <ul style="list-style-type: none"> Designed, coded, and deployed a full-stack application to track lab diagnostics with a React UI, NodeJS server, and MySQL database. 	<p>Moffett Field, CA Nov 2017 – Apr 2018 6 months</p>
<p>Stanford University, CSLI, Research Assistant: Natural Language Processing</p> <ul style="list-style-type: none"> Supervised by Dr. Christopher Potts and Will Monroe; explored models of language pragmatics, annotated new corpora, and ran experiments on Amazon Mechanical Turk; published at NAACL 2018. 	<p>Stanford, CA June 2017 – Aug 2017 3 months</p>

Publications

<p>Don't Fool Me Twice: Adapting to Adversity in the Wild with Experience-Driven Reasoning</p> <p>Navin Sriram Ravie, Andrew Jong, Krrish Jain, John Liu, Omar Alama, Bijo Sebastian, Sebastian Scherer arxiv.org/abs/2605.31119 (arXiv preprint (cs.RO))</p>	<p>2026</p>
<p>AnyThermal: Towards Learning Universal Representations for Thermal Perception</p> <p>Parv Maheshwari, Jay Karhade, Yogesh Chawla, Isaiah Adu, Florian Heisen, Andrew Porco, Andrew Jong, Yifei Liu, Santosh Pitla, Sebastian Scherer, Wenshan Wang anythermal.github.io (IEEE International Conference on Robotics and Automation (ICRA))</p>	<p>2026</p>
<p>IA-TIGRIS: An Incremental and Adaptive Sampling-Based Planner for Online Informative Path Planning</p> <p>Brady G. Moon, Nayana Suvarna, Andrew Jong, Satrajit Chatterjee, Junbin Yuan, Muqing Cao, Sebastian A. Scherer 10.1109/TRO.2026.3672542 (IEEE Transactions on Robotics (T-RO))</p>	<p>2026</p>
<p>SmokeSeer: 3D Gaussian Splatting for Smoke Removal and Scene Reconstruction</p> <p>Neham Jain, Andrew Jong, Sebastian A. Scherer, Ioannis Gkioulekas 10.1109/3DV69130.2026.00055 (International Conference on 3D Vision (3DV))</p>	<p>2026</p>
<p>FIReStereo: Forest InfraRed Stereo Dataset for UAS Depth Perception in Visually Degraded Environments</p> <p>Devansh Dhrafani, Yifei Liu, Andrew Jong, Ukcheol Shin, Yao He, Tyler Harp, Yaoyu Hu, Jean Oh, Sebastian A. Scherer 10.1109/LRA.2025.3536278 (IEEE Robotics and Automation Letters (RA-L))</p>	<p>2025</p>
<p>Robot Information Gathering for Wildland Fire Monitoring (Master's Thesis)</p> <p>Andrew Jong (Carnegie Mellon University)</p>	<p>2023</p>

<p>WIT-UAS: A Wildland-Fire Infrared Thermal Dataset to Detect Crew Assets From Aerial Views Andrew Jong, Mukai Yu, Devansh Dhrafani, Siva Kailas, Brady Moon, Katia Sycara, Sebastian Scherer 10.1109/IROS55552.2023.10341683 (IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS))</p>	2023
<p>3D Human Reconstruction in the Wild with Collaborative Aerial Cameras Cherie Ho, Andrew Jong, Harry Freeman, Rohan Rao, Rogerio Bonatti, Sebastian Scherer 10.1109/IROS51168.2021.9636745 (IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS))</p>	2021
<p>ShineOn: Illuminating Design Choices for Practical Video-Based Virtual Clothing Try-On Gaurav Kuppa, Andrew Jong, Xin Liu, Ziwei Liu, Teng-Sheng Moh arxiv.org/abs/2012.10495 (IEEE/CVF Winter Conference on Applications of Computer Vision (WACV) Workshops)</p>	2021
<p>Virtual Try-On With Generative Adversarial Networks: A Taxonomical Survey Andrew Jong, Melody Moh, Teng-Sheng Moh 10.4018/978-1-7998-4444-0.ch005 (Advancements in Computer Vision Applications in Intelligent Systems and Multimedia Technologies (IGI Global))</p>	2020
<p>A High-Altitude Balloon Platform for Space Life Sciences Education Jordan Mckaig, et al., Andrew Jong (American Society for Gravitational and Space Research (ASGSR))</p>	2019
<p>Short Video Datasets Show Potential for Outfits in Augmented Reality Andrew Jong, Teng-Sheng Moh 10.1109/HPCS48598.2019.9188236 (International Conference on High Performance Computing & Simulation (HPCS))</p>	2019
<p>Generating Bilingual Pragmatic Color References Will Monroe, Jennifer Hu, Andrew Jong, Christopher Potts 10.18653/v1/N18-1196 (North American Chapter of the Association for Computational Linguistics (NAACL-HLT))</p>	2018

Awards

- **Outstanding Graduating Senior**, Dept. of Computer Science, San Jose State University (2020) — highest annual award of the CS department; nominated and selected by faculty; 1 recipient annually.
- **Department of Computer Science Scholarship** (\$1,000), San Jose State University (2019) — for outstanding academic achievement; 5 recipients annually.

Skills

Programming Languages: C++, Python, Java

Frameworks & Tools: ROS, PyTorch, PX4, AirSim, DDS, OpenCV, Docker, Git

Research Topics: Robotics, Autonomy, Planning, Computer Vision, SLAM, GANs, Transformers, Machine Learning, Deep Learning

Languages: English (native), Mandarin (fluent)

Certifications: FAA Part 107 license for small UAS