

BRYON TJANAKA

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EDUCATION

University of Southern California (USC) · Los Angeles, CA	Aug. 2020 - Dec. 2025
Ph.D. Computer Science · Advisor: Stefanos Nikolaidis	
M.S. Computer Science (May 2022) · GPA: 4.0/4.0	
University of California, Irvine (UCI) · Irvine, CA	Sept. 2017 - Jun. 2020
B.S. Computer Science (AI specialization) · summa cum laude (GPA: 4.0/4.0) · ICS Honors · Regents' Scholar	

EXPERIENCE

Waymo LLC · Mountain View, CA	Jan. 2026 - Present
<i>Software Engineer</i>	
Interactive and Collaborative Autonomous Robotics (ICAROS Lab) · USC (PI: Stefanos Nikolaidis)	Aug. 2020 - Dec. 2025
<i>Research Assistant</i>	
• Scale quality diversity optimization and evolutionary algorithms to reinforcement learning and human-robot collaboration	
• Build infrastructure for running experiments on university clusters and local GPU workstations	
InstaDeep Ltd. · Boston, MA	May 2023 - Sept. 2023
<i>Ph.D. Research Intern</i>	
• Generated proteins by fine-tuning transformers with quality diversity optimization	
Google, Inc. · Mountain View, CA	
<i>Software Engineering Intern, Google Ads</i>	Jun. 2020 - Aug. 2020
• Reduced Ads Serving costs by 4% by rearranging flow of user queries	
<i>Software Engineering Intern, Google Ads</i>	Jun. 2019 - Sept. 2019
• Implemented, optimized, and evaluated multithreaded affinity clustering, a scalable clustering algorithm	
<i>Engineering Practicum Intern, Google Assistant</i>	Jun. 2018 - Sept. 2018
• Developed and documented a tool to evaluate Google Assistant extensions by analyzing responses to thousands of queries	
Undergraduate Research · UCI	
<i>Intelligent Dynamics Lab</i> (PI: Roy Fox)	Oct. 2019 - Jun. 2020
<i>Mobley Lab</i> (PI: David Mobley)	Oct. 2018 - Jun. 2020

SELECTED PROJECTS

pyribs: A Bare-Bones Python Library for Quality Diversity Optimization	Sep. 2020 - Present
<i>Developed as a Research Assistant in the ICAROS Lab</i> · https://pyribs.org	
• Open source Python library designed to make quality diversity more simple, flexible, and accessible	
• First released Feb. 2021, published as a full paper at Genetic and Evolutionary Computation Conference (GECCO) 2023	
• 200+ stars on GitHub; 50+ paper citations; Users include: Google DeepMind, AutoDesk Research, Huawei Noah's Ark Lab	
Training Diverse High-Dimensional Controllers by Scaling Covariance Matrix Adaptation MAP-Annealing	2020 - 2023
<i>Completed as a Research Assistant in the ICAROS Lab</i> · https://scalingcmamae.github.io	
• Scaled up an existing quality diversity algorithm to optimize controllers with tens of thousands of parameters	
• Published in Robotics and Automation Letters (RA-L) in Oct. 2023; presented at ICRA 2024	

LEADERSHIP & SERVICE

Student Mentorship in ICAROS Lab	Aug. 2020 - Present
• Advised eight undergraduate/master's students and guided two students to receive the USC Provost Fellowship	
• Mentored two high school students from underrepresented backgrounds as part of the USC SHINE program (2021, 2022)	
Reviewer for Conferences and Journals	Aug. 2020 - Present
• GECCO, ICLR, NeurIPS, ICRA, JMLR, ACM TAAS, AURO, IEEE TEVC, Swarm and Evolutionary Computation	

AWARDS

NVIDIA Academic Hardware Grant (Award: NVIDIA RTX A6000)	Mar. 2022
National Science Foundation Graduate Research Fellowship	Mar. 2021

ADDITIONAL INFORMATION

Programming Languages: Python, C/C++, JavaScript, Latex, HTML/CSS	
Libraries: PyTorch, JAX, LangChain, NumPy, Matplotlib, Hydra, Dask, Pytest, static site generators (Jekyll, Eleventy)	
Tools: (Neo)vim, Tmux, Git, Slurm, Linux, Inkscape, Google Suite, GitHub Actions, Ollama	
Personal: Competitive Ballroom Dance (since 2022; recently placed 1 st in Pre-Champ American Smooth), Graphic Design (https://btjanaka.net/art), Champion of 2017 VEX Robotics High School World Championship (>20,000 teams)	