BRYON TJANAKA

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EDUCATION

University of Southern California • Los Angeles, CA — Aug. 2020 - Present
Ph.D. Computer Science • **National Science Foundation Graduate Research Fellowship** • Advisor: Stefanos Nikolaidis
M.S. Computer Science (May 2022) • **GPA: 4.0/4.0**

University of California, Irvine • Irvine, CA — Sept. 2017 - Jun. 2020
B.S. Computer Science (AI specialization) • **GPA: 4.0/4.0** • ICS Honors • Regents' Scholar

EXPERIENCE

Interactive and Collaborative Autonomous Robotics (ICAROS Lab) • USC (PI: Stefanos Nikolaidis) Aug. 2020 - Present
Research Assistant
- Apply quality diversity optimization & evolutionary algorithms to reinforcement learning & human-robot collaboration

InstaDeep Ltd. • Boston, MA — May 2023 - Sept. 2023
Ph.D. Research Intern
- Leverage quality diversity optimization and reinforcement learning to design proteins

Intelligent Dynamics Lab • UC Irvine (PI: Roy Fox) — Oct. 2019 - Jun. 2020
Undergraduate Researcher
- Designed and tested a novel reinforcement learning algorithm using RLlib and PyTorch

Mobley Lab • UC Irvine (PI: David Mobley, Graduate Mentor: Jessica Maat) — Oct. 2018 - Jun. 2020
Undergraduate Researcher

Google, Inc. • Mountain View, CA
Software Engineering Intern, Google Ads — Jun. 2020 - Aug. 2020
Software Engineering Intern, Google Ads — Jun. 2019 - Sept. 2019
Engineering Practicum Intern, Google Assistant — Jun. 2018 - Sept. 2018

SELECTED PUBLICATIONS

B. Tjanaka, M. C. Fontaine, D. H. Lee, Y. Zhang, N. R. Balam, N. Dennler, S. S. Garlanka, N. D. Klapsis, S. Nikolaidis. "pyribs: A Bare-Bones Python Library for Quality Diversity Optimization." *Genetic And Evolutionary Computation Conference (GECCO)*, July 2023. Acceptance rate: 34.7%. `https://pyribs.org/paper`

V. Bhatt*, **B. Tjanaka***, M. C. Fontaine*, S. Nikolaidis. "Deep Surrogate Assisted Generation of Environments." *Neural Information Processing Systems (NeurIPS)*, November 2022. Acceptance rate: 25.6%. `https://dsagepaper.github.io`

B. Tjanaka, M. C. Fontaine, J. Togelius, S. Nikolaidis. "Approximating Gradients for Differentiable Quality Diversity in Reinforcement Learning." *Genetic And Evolutionary Computation Conference (GECCO)*, July 2022. Acceptance rate: 37%. `https://dqd-rl.github.io`

LEADERSHIP & SERVICE

USC Summer High School Intensive in Next-Generation Engineering • viterbik12.usc.edu/shine — 2021, 2022
- Mentor high school students in researching quality diversity with the ICAROS Lab

USC Viterbi Graduate Student Association • Los Angeles, CA — Aug. 2020 - Feb. 2023
- Webmaster – Maintain vgsa.usc.edu and promote outreach events

SKILLS

Languages: C/C++, Python, JavaScript, Java, SQL, Latex, HTML/CSS/Sass
Libraries/Frameworks: PyTorch, TensorFlow, Matplotlib, Dask, pytest, Google Test, React.js, Jekyll, Eleventy
Tools: Singularity containers, Slurm, Vim, tmux, Git, Unix/Linux, Google Suite, Inkscape
Natural Languages: English (fluent), Mandarin (proficient)

ADDITIONAL INFORMATION

Graphic Design (btjanaka.net/art) • 3D Printing • Speedcuber (solve Rubik's cube in <1 min)
Champion of 2017 VEX Robotics High School World Championship