

Daniel J. Butler

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Employment

2018-23	Salk Institute - Research Engineer, Bioinformatics Analyst
2016-2018	Freelance Software Developer
2011-2016	U. of Washington - PhD Student, Robotics / AI / Vision
2014-15	Heuristic Labs (startup) - Computer Vision Engineer
2011	Max Planck Institute for Intelligent Systems - Intern
2009-10	MIT Lincoln Laboratory - Assistant Technical Staff

Honors

Koenderink Prize for contributions to computer vision, 2022
Fulbright Fellowship, 2012

Education

PhD (*incomplete*), Computer Science - University of Washington, 2014-2016
MS, Computer Science - University of Washington, 2014
BS, Applied Math / Computer Science - Brown University, 2009 (*magna cum laude*)

Selected Projects

Academic computing research in neuroscience & neural motor control (@ Salk Institute)

Ran hundreds of **deep learning** experiments (TensorFlow, PyTorch, Docker)
Created a **data management system** for organizing millions of images (Python, SQL)
Wrote **performance-sensitive** software for multi-camera capture system (C++, Arduino)
Developed **web frontend** and **containerized backend** (React, Docker, Flask, celery)
Published a paper in **Nature Communications** (in press) and submitted a patent
Other tools used: version control (git), 3D printing, Adobe Illustrator, reinforcement learning

Python library for porting Keras deep learning code to Apple Metal GPU (@ Body Labs)

Translated Keras research code into **performant Apple Metal GPU code** (Python, Swift)
Used in a production iOS app, acquired by Amazon

Humanoid robot control interface development (@ U. of Washington)

Academic research on semi-autonomous robot control with vision and motion planning
Technologies: C++, Qt, OpenCV, Pandas, **CircleCI continuous integration**

Custom 3D Sensor (@ Heuristic Labs)

Implemented 3D stereo calibration & reconstruction pipeline with OpenCV, MATLAB
Developed custom calibration algorithm for projector-camera stereo pair
Tools: C++, MATLAB.

Personal software projects

Time-tracking MacOS desktop application (Node.js, React, git, **CircleCI**)
Websites and product experiments (**AWS**, **GCP**, Netlify, Gatsby.js, React)

Publications & Patents

https://scholar.google.com/citations?hl=en&user=Hg_y1pkAAAAJ

Five papers (three first author) in **computer science**

One paper (first author) in computing-related **neuroscience**

Two patents: one granted, one submitted

Professional references available on request.