NATHAN BLAIR

818-404-0613
nblair@berkeley.edu

github.com/ncblair
nathanblair.me

2520 Channing Way
Berkeley, CA
94720

Education

UC Berkeley, Electrical Engineering and Computer Science — 2016–Present
Coursework: Machine Learning, Artificial Intelligence, Algorithms, Probability and Random Processes, Computational Photography, Optimization Methods, Data Structures, Signals and Systems, Discrete Math and Probability Theory, Linear Algebra and Differential Equations, Computer Architecture, Web Development, Designing Info Devices and Systems I & II, Multivariable Calculus
GPA: Total: 3.77, Sophomore: 3.93, Freshman: 3.55
Competitions: 2nd @ Harvard (CS50x) Puzzle Hunt, 3rd @ Facebook Puzzle Hunt

Experience

Computer Vision Intern, NASA JPL — 2018
Trained a faster-rcnn neural network to detect bright comets in infrared data taken by the WISE satellite. Built a library for building easy-to-use object detectors on astronomical data that extends Tensorflow's object detection api. Wrote scripts for neural network training and evaluation, data collection, and image annotation. Typed over 4000 lines of commented and tested Python code.

Reinforcement Learning and Control Research, UC Berkeley — 2018-Present
Explored new data-efficient machine learning methods to provide performance and safety guarantees for complex, risky, and poorly understood real-world environments.

Research Support Intern, Caltech & JPL — 2014–2016
Performed daily quality assurance checks on minor planet candidates.
Published Work: Co-Author of "The NEOWISE-Discovered Comet Population and the CO+CO2 Production Rates." published in *The Astrophysical Journal*.

Projects

Picture Evolution (Python, Tensorflow) [github.com/ncblair/Picture_Evolution]
Created a genetic algorithm to spawn novel MNIST images starting from noise in around 10 seconds. Implemented neural network to evaluate image "fitness."
Conway's Game Of Life Game (JS/ES6, SQL, PHP) [nathanblair.me/gameOfLife]
Designed HTML5 Canvas game inspired by John Conway's Game of Life.
Incorporated ES6-style object oriented JavaScript for modularity and readability. Used SQL, PHP, and AJAX requests to enable high score.

Skills

Languages: Python, Java, C, JavaScript/ES6, SQL, PHP, RISC-V/Assembly, Scheme, HTML, CSS
Libraries: Numpy, Matplotlib, Tensorflow, Tensorflow/object_detection, GPy, Astropy
Software: Git/Github, Bash, Photoshop/GIMP, LaTeX
High Level Skills: ML, Data Structures, Computer Architecture, OOP, Web Dev