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: Artificial Intelligence, Algorithms, Probability and Random Processes, Signals and Systems, Data Structures, 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: 3.7, Sophomore: 3.93, Freshman: 3.55
Competitions: 2nd @ Harvard (CS50x) Puzzle Hunt, 3rd @ Facebook Puzzle Hunt

Experience

Reinforcement Learning and Control Research, UC Berkeley — 2018-Present
Engineered 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
Executed scripts that "stacked" images of comet candidates at their rates of motion, increasing signal-to-noise ratio and making them easier to authenticate. Performed daily quality assurance checks on minor planet candidates before forwarding confirmed objects to the Minor Planet Center.
Published Work: Co-Author of "The NEOWISE-Discovered Comet Population and the $CO+CO_2$ Production Rates." published in *The Astrophysical Journal*.

Projects

Picture Evolution (Python, Tensorflow) [github.com/ncblair/Picture_Evolution]
Invented a genetic algorithm to spawn novel and recognizable MNIST images starting from noise in around 10 seconds. Implemented convolutional 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, Scipy, GPy, JQuery, NumJS
Software: Git/Github, Bash, Photoshop/GIMP, LaTeX
Hardware: Raspberry Pi, TI Launchpad
Web Frameworks: Django and Flask (limited experience)
High Level Skills: ML, Data Structures, Computer Architecture, OOP, Web Dev