MICHAEL CATCHEN - CURRICULUM VITAE

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EDUCATION

University of Colorado, Boulder
Master of Arts, Ecology and Evolutionary Biology, GPA: 3.94 — *exp. May 2020*
Bachelor of Arts, Ecology and Evolutionary Biology, GPA: 3.94 — *exp. May 2020*

RESEARCH PROJECTS

Metapopulation Fragmentation Model — *Fall 2017 - Present*
Flaxman Lab, University of Colorado at Boulder
An individual-based, spatially-explicit metapopulation model designed to detect the effects of fragmentation in genomic data, and the capacity for adaptation to rapid environmental change.

WORK EXPERIENCE

Dept. of Ecology and Evolutionary Biology, University of Colorado — Boulder, CO
Lab Assistant — *Summer 2018*

· Worked as a lab assistant in the Melbourne Lab, kept model *Tribolium* systems running.

Dept. of Applied Mathematics, University of Colorado — Boulder, CO
Learning Assistant — *Spring 2016-Fall 2017*

· Helped students understand the concepts in Calculus 1, 2, and 3 in a workgroup setting. Gained teaching experience in communicating abstract concepts.

NASA Jet Propulsion Laboratory — Pasadena, CA
Software Engineering Intern — *Summer 2017*

· Worked as a flight software engineer for LunarFlashlight and NEAScout 6U cubesats. Developed skills in planning and implementing flight software system architecture, unit testing, and integration testing on the flight software system level using C and Python.

NASA Jet Propulsion Laboratory — Pasadena, CA
Systems Engineering Intern — *Summers 2015 and 2016*

· Created a web-based content management system for the Mission Planning, Sequencing, and Analysis sections website. Developed skills using popular web frameworks for both front and back-end development. Learned skills in asynchronous web development.

COURSEWORK

Math	Multivariable Calculus, Differential Equations, Linear Algebra, Probability Theory, Stochastic Processes
Computing	Data Structures, Algorithms, Computer Systems, Software Engineering Methods
Biology	Genomics, Phylogenetics

SKILLS

Languages	Python, C/C++, R, Bash, MATLAB, LaTeX.
Software & Tools	git, tidyverse, numpy/scipy/pandas, Adobe Photoshop, Illustrator
Operating Systems	UNIX, macOS, Linux (Ubuntu, Redhat)