Anthony Aylward
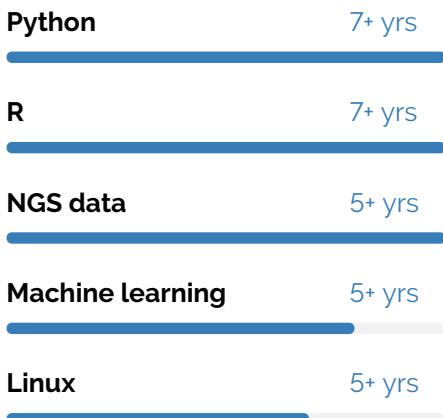
Bioinfomatician & Data Scientist

CONTACT

- San Diego, CA
- (530) 774-6697
- anthony.aylward@protonmail.com

SKILLS

Python — 7+ yrs

R — 7+ yrs

NGS data — 5+ yrs

Machine learning — 5+ yrs

Linux — 5+ yrs

EDUCATION

Sep 2013 - Jul 2021

PhD Bioinformatics & Systems Biology
UC San Diego

Dissertation on statistical genetics methods for diabetes research

Sep 2008 - Jun 2012

BS Mathematics
UC Santa Barbara

Thesis on mathematical ecology

ONLINE CV

Scan the QR code or <u>click here</u> to view an extended online CV.

EXPERIENCE

PhD Student
Bioinformatics & Systems Biology   Sep 2013 - Jul 2021

Bioinformatics / statistics:

- Software tools for NGS DNA sequencing data
- Programming with Python for bioinformatics applications
- Programming with R and Bioconductor for bioinformatics and statistics
- Statistical reasoning, drawing on 6 years of classroom training in math / statistics and further independent learning during graduate school. Routinely advised other graduate students and postdocs on statistical analysis questions.

Machine learning / data science

- Extensive study of machine learning methods as part of graduate course cirriculum and independently. Familiar with time series analysis, Markov models, decision trees, random forests, support vector machines, neural networks, etc.
- Proficiency with Jupyter Notebooks

Software / computing:

- Linux and MacOS command line environments. Also capable of working with Windows. Acted as a primary system administrator for lab computing resources for several years.
- Python and SQL for web applications. Made occasional contributions to the design and implementation of the Diabetes Epigenome Atlas.

Research Assistant
Mathematical Biology   Sep 2012 - Sep 2013

Developed a mathematical model for angiogenesis (growth of blood vessels) in mouse retina

PROFILE

Anthony is a PhD bioinformatics scientist, fascinated by the ever-growing wealth of knowledge contained in large-scale biological datasets. His graduate school research focused on statistical genetics and diabetes.

When not analyzing data, Anthony enjoys an exciting game of Rocket League or a relaxing run through the park with his golden retriever, Cali.

PUBLICATIONS

First author:

Aylward et al. Glucocorticoid signaling in pancreatic islets modulates gene regulatory programs and genetic risk of type 2 diabetes
PLOS Genetics

May 2021

Aylward et al. Shared genetic risk contributes to type 1 and type 2 diabetes etiology
Human Molecular Genetics

Nov 2018

Other:

Geusz et al. Pancreatic progenitor epigenome maps prioritize type 2 diabetes risk genes with roles in development
eLife

Feb 2021

Greenwald et al. Pancreatic islet chromatin accessibility and conformation reveals distal enhancer networks of type 2 diabetes risk
Nature Communications

May 2019

Murrel et al. Gene-Wide Identification of Episodic Selection
Molecular Biology and Evolution

Feb 2015