Matthew Barber

Essex, UK 07951 415676 quitesimplymatt@gmail.com

PROFILE

I'm a BSc Computer Science graduate experienced in using Python for data mining applications. I can efficiently explore, preprocess and model for data to identify the underlying patterns which lead to useful insights. I can develop quick scripts and notebooks to fully-fledged CLIs and websites. I can work efficiently alone, being a disciplined and resourceful individual, always eager to improve my craft. With my employment and volunteering experiences necessitating cohesive teamwork, I enjoy working with and learning from my peers, and can communicate my own ideas succinctly.

EXPERIENCE

Quansight OSS Intern *July—Sep. 2021*

Creating tools for developers and users of Python array libraries such as NumPy to test their adoption of the upcoming Array API standard. Involves using property-based techniques to find non-obvious bugs, where my work is now being merged into the popular Hypothesis library for first-party support and will be used by the official Array API compliance suite.

PROJECTS

coinflip

Python library for assuring cryptographic randomness in RNGs. The implemented statistical tests use pandas under the hood. A testing suite featuring pytest and Hypothesis ensures reliable results.

Linear B-cell Epitope Classification

Essay on exploring, preprocessing and modelling for a dirty proteins dataset. Subtle duplication patterns were identified, resolved via a bespoke Python script. Weka was used to create various classifiers to find the most appropriate model for both equal and uneven cost scenarios.

yygarchive.org

Flask site to search for games of a shutdown games portal. Games were procured from an existing WARC collection, replayed with pywb to subsequently be scraped using requests and Beautiful Soup.

Recursive GZIP Bomb Tutorial

Comprehensive primer on the file format and compression algorithm theory involved in creating compressed file quines (i.e. extracts to an exact copy of itself, ad infinitum). Self-referential checksum was brute-forced by a multiprocessing Python script.

EDUCATION

Aston University *Sep. 2016—July 2020*

1st (Honours) BSc Computer Science

FIND ME ONLINE

github.com/honno
pypi.org/user/honno
kaggle.com/justhonno
honno.dev
blog.honno.dev
linkedin.com/in/honno

LANGUAGES

Python
C
SQL
JavaScript
Bash
Lisp

PACKAGES

pandas
NumPy
SciPy
pytest
Hypothesis
Sphinx
Matplotlib
Altair
Rich
Click
Requests
Flask
Django
Beautiful Soup
pywb

TOOLS

Git
Jupyter
pre-commit
GitHub Actions
Docker