

Pittsboro, NC 2712
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DYLAN CROMER

Motivated data scientist with a passion for solving challenging problems

SKILLS

Programming & Software: Python, SQL, ScikitLearn, NumPy, SciPy, Jupyter, Pandas, Tensorflow, Linux, Vim, Bash, Git, Github, Test-Driven Development, Excel, Jira, User Acceptance Testing, Scrum

Math & Algorithms: Probability & Statistics, Principal Component Analysis, Gaussian Process Regression, Neural Networks, Naive Bayes, Random Forests, Clustering, Federated Machine Learning, Synthetic Data Generation, Latin Hypercube Sampling, Deep Learning, Theoretical Physics

Cloud & CI: DigitalOcean, Github Actions, AWS

Soft skills: Communication of technical info, Teamwork, Organizing & task planning, Long-distance collaboration, Self-directed learning

EXPERIENCE

Devron, remote – Data Scientist

OCTOBER 2022 – JANUARY 2023

Responsible for quality assurance & user acceptance testing of Devron's federated machine learning product, writing tutorials and documentation, providing data science services to customers, and ensuring quality of customer experience.

- Developed analysis of customer data
 - Identified key points of inefficiency in business practices using statistical metrics, and presented findings with Seaborn and Plotly visualizations, in some cases identifying hundreds of working hours per month of excess labor.
- Took over several product management duties when Technical Product Manager (and previous supervisor) left the company
 - Proposed design and user interface changes to address UX difficulties, and worked closely with both engineers and product management to navigate solutions.
 - Designed testing plans for exploratory data analysis, model training, and evaluation, prioritizing quality and ease of user experience.
- Conducted user acceptance testing of Devron's programmatic API for federated ML, as well as their graphical web interface, ensuring new releases and features met the utmost standards of usability and quality.
 - Conducted extensive tests of federated ML modeling (with e.g. NN & Naive Bayes classifiers, K-Means clustering, etc), documented both bugs and UX issues, & proposed specific next-steps to remediate.
 - Logged bugs and UX issues in Jira, and created executive summaries of the bigger-picture feedback.
 - Found a critical issue in a core feature of the Devron federated ML product through testing, identified a potential cause via research & further tests, then documented all findings and proposed solutions for engineering and executive review.

- Used Devron's cloud infrastructure to assist engineering in debugging identified bugs.
- Wrote technical blog posts, user tutorials, and assisted with marketing strategies to target data scientists as prospective customers.

Frontier Engineering, remote – Database Consultant (Contract)

JULY 2022 – OCTOBER 2022

Created a searchable database of 20+ years of engineering project files using Recoll, saving lead-engineer approximately 80 hours/month.

Self-Employed – Writer

MAY 2021 – July 2022

Researched and began drafting a book about structural problems in academia.

Cornell University, Ithaca NY – Graduate Research Assistant

AUGUST 2017 – MAY 2021

Developed novel unbiased statistical model of galaxy cluster masses to boost new cosmological results ([scientific paper](#); accepted for publication)

- Derived and programmed mathematical model of galaxy cluster mass profiles
- Created a faster surrogate model using Gaussian Process Regression and Principal Component Analysis
 - Surrogate over 1,000 times faster than the raw model
- Used Markov-Chain Monte Carlo to demonstrate the model is unbiased using simulated galaxy cluster data
- Created fully-tested (unit and integration) Python library
 - Software currently in use by multiple cosmology collaborations

UNC Asheville, Asheville, NC – Undergraduate Research Intern (paid)

MAY 2014 – AUGUST 2014

Developed and calculated stellar flare model of Fast Radio Bursts to determine if stellar flares could cause FRBs

- Used Chi-Squared goodness of fit to demonstrate they could not

EDUCATION

Cornell University, Ithaca, NY – Master of Science

2017–2021. Astronomy.

UNC Asheville, Asheville, NC – Bachelor of Science

2013–2017. Physics and Mathematics.

Honors: Manly Wright Valedictory Scholar, summa cum laude, distinction as research scholar.

AWARDS

Cornell Graduate Fellowship

UNC-Asheville Manly Wright Valedictory Award

NC Space Grant Research Scholarship

UNC-Asheville Parsons Scholarship

UNC-Asheville Chancellor's List