

Nicholas Alexander

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Education

University Of California, Santa Barbara

Sep 2021 - June 2023

B.S. Statistics and Data Science | 3.91 GPA | Honors

Minor in Spatial Sciences

Minor in Mathematics

Relevant Coursework: Data Science Capstone, Linear Algebra, Statistical Machine Learning, Regression Analysis, Intro to Probability, Bayesian Data Analysis, Data Science Concepts and Analysis

Santa Barbara City College

Aug 2019 - May 2021

A.S. Computer Science | 3.9 GPA

Relevant Coursework: Object Oriented Programming w/ C++, Intro to Programming w/ Python, Intro to Programming w/ C, Intro to Data Structures and Algorithms, Linear Algebra, Multivariable Calculus

Work Experience

Cheadle Center for Biodiversity and Ecological Restoration, Santa Barbara, CA

Sep 2021 - Present

Data Science Research Intern

- Using OpenCV for image processing
- Building and evaluating complex neural networks for classifying different bee specimens
- Extracting important metadata from image data for analysis

Santa Barbara City College, Santa Barbara, CA

May 2021 - Dec 2021

Computer Science Tutor

- Guided students through lab/homework problems for following courses:
 - Intro to Python Programming
 - Computer Architecture and Organization
 - Object Oriented Programming w/ C++
- Prepared lecture series and discussion material for midterm and final review sessions

NASA Community College Aerospace Scholars(NCAS), Remote/Virtual

Sep 2020 - Mar 2021

Aerospace Scholar

- Successfully completed NASA 6 week online course(pre-onsite)
- Conducted a 10 page research paper focussed on advancing habitation systems in order to make deep space travel a reality
- Selected to participate in a two week long virtual onsite workshop
- Served as the computer systems engineer of a fictitious Moon rover mission, with 100% success
- Collaborated with a mentor and team of 11 other candidates to design the mission and resolve budgeting/technical conflicts
- Networked with subject matter experts and industry professionals

Skills

Python, Tensorflow, Keras, Pytorch, Scikit-Learn, NLTK, Spacy, OpenCV, Tableau, C++, Java, JavaScript, HTML, CSS, SQL, Excel

Interests

Deep Learning, Neural Networks, Reinforcement Learning, Artificial Intelligence, Autonomous Systems, Computer Vision, Natural Language Processing, Data Science, Linear Algebra, Optimization Algorithms

Projects

GANIME, Data Science Club Group Project | *Python, Pytorch, Pillow, Jupyter, Beautiful Soup, Git*

- Collaborated with team of 4 as the data scientist for building a full stack website
- Built Generative Adversarial Networks to generate original anime backgrounds/scenery
- Scraped over 120,000 images from various sources to train multiple styles of GANs
- Analyzed image metadata to decide proper preprocessing techniques

Covid-19 Daily Case Forecasting | *Python, Pytorch, Scikit-Learn, CovidCast*

- Predictive modelling for forecasting total Covid cases on a given day and CA county
- 83% accuracy
- Fetched data through multiple sources via CMU Delphi's COVIDcast API
- Filled in missing data with daily average of respective features

Offensive Tweet Detection | *Python, Scikit-Learn, Natural Language Toolkit*

- Used natural language processing and sentiment analysis to detect whether a tweet is racist/sexist
- Trained a dataset of over 17,000 samples, including the users' tweet and label(offensive or not offensive)
- Preprocessed each tweet using methods in Python's NLTK library to gather only meaningful words
- Vectorized the final word library into numbers in order to train data with Gaussian Naive Bayes classification

<https://www.sbcoop.org/> | *JavaScript, HTML5, CSS4*

- Helped my housing organization rebuild website layout
- Deployed website via DreamHost
- Used Javascript for programming frontend features