Parker Addison

pgaddiso@ucsd.edu
(415) 497-8545
parkeraddison.com
in/parkeraddison
git/parkergreyaddison

Statement

> I am an open-minded, critical-thinking, young data scientist who wants to change the world for the better by improving my ability to accomplish three core tasks:
>
> - Building knowledge and extracting information from the world
> - Composing knowledge and information into compelling stories
> - Transitioning stories into opportunities for impactful action

---

Education

B.S. in Data Science, Minor in Management

UC San Diego, September 2017 – June 2021

- Cumulative GPA: 3.91, Technical GPA: 3.94, Provost Honors
- Halıcıoğlu Data Science Institute Undergraduate Research Fellow, 2018 – 2019
- Committee member of the Data Science Student Society (DS3)

Research Experience

Network Operations Center Researcher

National Science Foundation and UC San Diego, July 2019 – Present

- Training a ChatOps chatbot to parse, reference, and explain Docker and Kubernetes documentation in response to Natural Language Queries
- Leveraging Reinforcement Learning to improve the chatbot based on direct and indirect user feedback
- Prototyping interactive VR/AR visualizations of network communications between supercomputer centers
- Aiding the realization of NSF Awards #1541349 PRP, #1730158 CHASE-CI, and #1826967 TNRP

Faculty Research Assistant

UC San Diego, March 2019 – Present

- Collaborated one-on-one with a professor to formulate research questions and hypotheses
- Analyzed network graph samples by conducting bootstrapping on well-known synthetic networks using `NetworkX` and other Python analysis packages
- Developed a parametric statistical framework to identify and correct for statistical bias in samples from network graphs with scale-free characteristics

Undergraduate Research Fellow

Halıcıoğlu Data Science Institute, October 2018 – Present

- Researched the financial accessibility of nutritious grocery lists in effort to combat food insecurity
- Lead the four-person undergraduate team as a project manager and full-stack developer
- Utilized a scalable PostgreSQL database to store and reference nutritional data collected from grocery webpages and REST APIs
- Optimized nutrition versus cost using Linear Programming and Mixed Integer Non-Linear Solvers via Python APIs and packages like `PuLP`, `CVXPY`

Teaching Experience

Instructional Assistant and Discussion Leader

UC San Diego, April 2018 – Present

- Produced interactive materials for discussion and review sections in groups of up to 30 students, and lead final review for 250+ students
- Helped students master programming, statistics, and data analysis concepts through one-on-one and small group tutoring
- Collaborated with professors to design developmentally appropriate lab assignments, discussion notebooks, exam problems, and rubrics
- Taught topics including: Python; Data Manipulation with `pandas`; Machine Learning with `sklearn`; Data Analysis with `matplotlib` and `scipy`; Probability Theory; Parametric Statistics and Parameter Estimation; Nonparametric Statistics and Kernel Density Estimation; Dimensionality Reduction and Principal Component Analysis;

Professional Experience

Machine Learning Engineer

Sapie Space, January 2018 – August 2018

- Worked with a startup using Machine Learning to match clients with social media micro-influencers
- Crawled and scraped webpages with `Selenium`, utilized REST APIs, cleaned data, and engineered features pertaining to influence
- Implemented Eclat Machine Learning Algorithm to contribute to our Recommender System
- Studied papers detailing mathematics behind Social Influence Mining, Graph Theory, and Association Rule Learning
- Tabled at Triton Entrepreneur Night to offer demos and talk with potential investors

Data Analyst

SommSelect, July 2017 – September 2018

- Aggregated data containing 4 years of e-commerce wine sales, 1300+ bottles, and 14,000+ customers
- Analyzed and charted associations between wine bottle profitability and various features in Excel
- Communicated with executives to determine key deliverables and highlight top customer segments

Intern

Ameriprise Financial Inc., June 2017 – August 2017

- Overhauled design of Comprehensive Client Service Review spreadsheets in Excel
- Populated spreadsheets financial information and formulated logic for self-populating cells
- Generated performance reports for stock portfolio mixes in MorningStar based on well-known investors' advice directly from their books

Hackathons

Mentor

UCSD Datathon, April 2019

- Mentored 100+ students at UCSD's first-ever data centered hackathon
- Explained concepts and debugged code related to CNN Image Classification, Transfer Learning, Data Canonicalization, Geocoding, and Geographic Visualization

Hacker, "*NeuralNetworkVisual*"

SD Hacks, October 2018

- Engineered a web-based interactive 3D visualizer and editor for `Keras` deep learning models using Python and JavaScript
- Learned common architectures and brainstormed visualizations for Perceptrons, CNNs, and LSTMs

Hacker, "*Ouch, That Hurts!*"

UC Health Hack, October 2018

- Built an Amazon Alexa Skill for medical patients to report symptoms and uncover potential triggers
- Established persistence with a DynamoDB database using Python and AWS Lambda

Hacker, "*Indeed Job Search City Recommender*"

ASA DataFest at Chapman University, April 2018

- Engineered a ranking system using feature extraction to recommend job-opportune cities dependent on industry
- Aggregated data from multiple sources, cleaned and canonicalized data where necessary

---

Speaking Arrangements

Invited Speaker, "*What Ignited My Love For Data Science*"

Ignite Talks UC San Diego, May 2019

Of Note

Course Projects - Spatial Data Science (DSC 170)

UC San Diego, March 2019 – June 2019

- Leveraged `ArcGIS` through the Python API, interfacing with `Shapely` and `GeoPandas`
- Practiced principles of cartography, modeled business trends in food deserts, analyzed spatial autocorrelation of various features, uncovered frequentist likelihood of bike accidents using geoenrichment, and developed a framework for modeling traffic impact of major events

---

Interpersonal Skills

Communication:

Listening and explaining. I tailor tutoring and discussion sessions to satisfy student feedback. I convey concepts by leading thoughts in the right direction, rather than making an absolute statement.

Teamwork:

Leading and collaborating. I have experience with diverse teams of size 2 to 16 during hackathons, projects, and work positions. Many of my major milestones have been collaborative endeavors.

Learning:

Observing and questioning. I am never afraid to speak up, ask questions, and propose hypotheses. I am always eager to listen and discover what others have to say.

Technical Skills

Languages:

Python (advanced), SQL (intermediate), R (intermediate), JavaScript (intermediate), Java (adv. beginner), HTML (advanced), CSS (advanced)

Database Management:

SQL, AWS DynamoDB, AWS S3
Python packages: `Pandas`, `Psycopg2`, `MySQL`, `SQLite3`, `Boto3`

Computation:

AWS Lambda, AWS EC2, Kubernetes, Docker
Python packages: `NumPy`, `SciPy`, `multiprocessing`

Miscellaneous Analysis:

Python packages: `PuLP`, `CVXPY`, `NetworkX`

Machine Learning:

Linear Regression, KNN Classification, Naive Bayes Classification, Decision Trees and Random Forests, Perceptron Neural Nets, Convolutional Neural Nets, Image Processing, Natural Language Processing
Python packages: `SciKit-Learn`, `Keras`, `PyTorch`, `OpenCV`, `NLTK`

Visualization:

Python packages: `Matplotlib`, `Seaborn`, `Folium`, `ArcGIS`
JavaScript libraries: `D3.js`, `Three.js`

Web:

Front-End development and design using HTML5, CSS, and JavaScript, Back-End development using JavaScript and Python `Flask`
Python packages: `Flask`, `Selenium`, `BeautifulSoup`

Geospatial:

ArcGIS Online, ArcGIS Pro, ArcGIS Python API, Spatial Joins, GeoEnrichment, Raster Operations, Choropleths
Python packages: `ArcGIS`, `GeoPandas`, `Shapely`, `Folium`

Please feel free to ask me about anything listed on this document!
Reach me at pgaddiso@ucsd.edu and we'll find a time to chat.