Parker Addison

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Statement

I am an open-minded, critical-thinking data scientist who wants to improve the world. I will accomplish this by Building knowledge and extracting information from the world; by Composing knowledge and information into compelling stories; and by 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**

Qualcomm Institute - UC San Diego Division of Calit2, July 2019 – Present

* Training a ChatOps chatbot to parse, reference, and explain Docker and Kubernetes documentation in response to Natural Language Queries
* Automating diagnosis pipelines to allow the chatbot to conduct root cause analysis
* Prototyping interactive 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](https://networkx.github.io/) 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 query nutritional data aggregated from scraped webpages and REST APIs
* Optimized nutrition versus cost using Linear Programming and Mixed Integer Non-Linear Solvers via Python APIs and packages like [PuLP](https://pythonhosted.org/PuLP/), [CVXPY](https://www.cvxpy.org/)

Teaching Experience

**Instructional Assistant and Discussion Leader**

UC San Diego, April 2018 – June 2019

* Produced [interactive materials for discussion and review sections](https://github.com/ucsd-ets/dsc10-fa18/tree/master/Discussions) 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](https://pandas.pydata.org/); Machine Learning with [sklearn](https://scikit-learn.org/stable/index.html); Data Analysis with [matplotlib](https://matplotlib.org/) and [scipy](https://scipy.org/); 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](https://www.seleniumhq.org/), 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 2017

* 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"***](https://devpost.com/software/neural-network-visual-3d-graphical-editor)

SD Hacks, October 2018

* Engineered a web-based interactive 3D visualizer and editor for [Keras](https://keras.io/) 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 a persistent 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 highly 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"***](https://youtu.be/S7srcEu3Lpw)

Ignite Talks UC San Diego, May 2019

Course Projects

[**Course Projects - Spatial Data Science (DSC 170)**](https://github.com/parkergreyaddison/Geospatial-Data-Science)

UC San Diego, March 2019 – June 2019

* Leveraged [ArcGIS](https://developers.arcgis.com/python/) through the Python API, interfacing with [Shapely](https://shapely.readthedocs.io/en/latest/) and [GeoPandas](http://geopandas.org/)
* 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), JavaScript (intermediate), HTML & CSS (intermediate), R (basic)

**Database Management:**

SQL, AWS DynamoDB, AWS S3  
Python packages: [Pandas](https://pandas.pydata.org/), [Psycopg2](http://initd.org/psycopg/), [MySQL](https://dev.mysql.com/doc/connector-python/en/), [SQLite3](https://docs.python.org/3.7/library/sqlite3.html), [Boto3](https://boto3.amazonaws.com/v1/documentation/api/latest/index.html)

**Computation:**

AWS Lambda, AWS EC2, Kubernetes, Docker  
Python packages: [NumPy](https://www.numpy.org/), [SciPy](https://scipy.org/), [multiprocessing](https://docs.python.org/3.7/library/multiprocessing.html)

**Miscellaneous Analysis:**

Python packages: [PuLP](https://pythonhosted.org/PuLP/), [CVXPY](https://www.cvxpy.org/), [NetworkX](https://networkx.github.io/)

**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](https://scikit-learn.org/stable/index.html), [Keras](https://keras.io/), [PyTorch](https://pytorch.org/), [OpenCV](https://opencv.org/), [NLTK](http://nltk.org/)

**Visualization:**

Python packages: [Matplotlib](https://matplotlib.org/), [Seaborn](https://seaborn.pydata.org/), [Folium](https://python-visualization.github.io/folium/), [ArcGIS](https://developers.arcgis.com/python/)  
JavaScript libraries: [D3.js](https://d3js.org/), [Three.js](https://threejs.org/)

**Web:**

Front-End development and design using HTML5, CSS, and JavaScript, Back-End development using JavaScript and Python, Chatbot creation utilizing Meteor DDP  
Python packages: [Flask](http://flask.pocoo.org/), [Selenium](https://www.seleniumhq.org/), [BeautifulSoup](https://www.crummy.com/software/BeautifulSoup/), [MeteorClient](https://github.com/hharnisc/python-meteor)

**Geospatial:**

ArcGIS Online, ArcGIS Pro, ArcGIS Python API, Spatial Joins, GeoEnrichment, Raster Operations, Choropleths  
Python packages: [ArcGIS](https://developers.arcgis.com/python/), [GeoPandas](http://geopandas.org/), [Shapely](https://shapely.readthedocs.io/en/latest/), [Folium](https://python-visualization.github.io/folium/)

Please feel free to ask me about anything listed on this document!