

Adithya Solai

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EDUCATION

University of Maryland – College Park, MD

Bachelor of Science, Computer Science (Data Science Specialization)

Minors: Statistics & Business Analytics

Fall 2021

Cumulative GPA: 3.938

TECHNICAL SKILLS

Languages: Python, Java, SQL, HTML/CSS, OCaml, C

Technologies/Frameworks: Pandas, NumPy, OpenAI Gym, Databricks (PySpark, SparkSQL), Tableau, Matplotlib

WORK EXPERIENCE

605 (Data Analytics Firm for TV Ad Measurement)

New York, NY

Junior Data Analyst

May 2020 – August 2020

- Utilizing Databricks' PySpark/SparkSQL to optimize SQL queries that operate on a data pipeline of 5+ vendors and billions of rows of data on a daily basis to reduce Spark cluster costs and save future development time.
- Building Tableau dashboards to deliver daily reports with 50+ metrics that visualize the flow and accuracy of data.
- Conducting ad-hoc analysis on data methodology questions to improve the accuracy of 605's Platform app.

Data Solutions Intern

June 2019 – August 2019

- Regression Analysis Engine:** Developed a script that accurately compares 605's live algorithms with those in development by randomizing and parameterizing 20+ possible user fields to generate 10+ million input combinations.
 - Utilized Python Pandas to run hundreds of simulations, and used Dataframes to aggregate results for analysis.
 - Queried relational databases using SQL to dynamically define 20+ field ranges and make the analysis more robust.
 - Generated formatted report sheets to clearly visualize algorithm inefficiencies for 45+ non-technical users.

Medium – Towards Data Science

Remote

Freelance Writer

July 2020 – Present

- Publishing educational data science articles in the premier publication (440k+ followers!) for data science discourse.
- Writing a blog series (100+ likes!) to educate AI newcomers on Reinforcement Learning. (medium.com/@ppalanic)

PERSONAL PROJECTS

Monte Carlo Blackjack – Python (Pandas/NumPy/OpenAI Gym/Matplotlib)

- Designed a policy-based, stochastic Reinforcement Learning (RL) algorithm that uses the First-Visit Monte Carlo Method and a Blackjack environment built from scratch in OpenAI Gym to maximize Blackjack returns.
- Reduced casino edge from 20% → 4% by training my AI agent with my RL algorithm through 1 million episodes.
- Improved my RL algorithm by optimizing γ (discount rate), α (learn rate), and ϵ (explore vs exploit) for max returns.

Linear Algebra Calculator – Java

- Implemented fundamental Linear Algebra functions such as finding the inverse, determinant, and row-reduced echelon form of a matrix. Optimized these functions using advanced concepts from my Linear Algebra course.
- Architected Vector and Matrix objects to create compatibility with Java data structures and optimize my functions.

Song Lyrics Analysis Script – Java

- Analyzed unique word percentage and word frequency in thousands of song lyrics to investigate the lyrical creativity of various hip-hop and R&B artists. Built this by utilizing Java HashMaps/Sets and expanding on a class example.

NBA Analytics – Python (Pandas/BeautifulSoup)

- Scraped season average stats for 400+ NBA players by analyzing the website's HTML format and using BeautifulSoup to pull the data. Cleaned data (30+ rows) and found players that meet stat baselines using Pandas' operations.

adithyasolai.com – HTML/CSS

- Developing a personal website to publish content, build a personal brand, and learn web development along the way!

LEADERSHIP

UMD International Economics and Finance Society (IEFS) – VP of Content

December 2019 – Present

- Lead a committee of 4 researchers in developing and presenting professional slide decks and case studies to 70+ club members on topics such as value investing, cryptocurrencies/blockchain, and the macroeconomics of political policy.
- Spearheading **IEFS Digest** as Chief Editor & Writer to publish articles on topics like market technical analysis, oil futures, recession indicators, etc. (medium.com/umd-iefs-online-content) (10 articles already published! More coming soon!)
- Creating an educational, data science-oriented branch of IEFS to help members break into quantitative finance roles and attract new members from technical backgrounds to diversify the #1 rated club at the Smith School of Business.

AWARDS/HONORS: ACT: 35, Bloomberg Market Concepts Certification, UMD CMNS Dean's List x 4

INTERESTS: Fantasy Novels (Tolkien, GRRM), Hip-Hop, Chess, Guitar, Basketball (LeBron!), & Skateboarding