# Adithya Solai

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## EDUCATION

**University of Maryland – College Park, MD** **Expected Grad: Spring 2022**
Bachelor of Science, Computer Science (Minor: Business Analytics) **Cumulative GPA: 3.938 / 4.0**

## TECHNICAL SKILLS

**Languages:** Python, Java, SQL, R, HTML/CSS, C++

## PROFESSIONAL EXPERIENCE

**Amazon** – Software Development Engineer Intern – Seattle, WA **Jun. 2021 – Aug. 2021**
**Ocient** – Software Engineer Intern – Chicago, IL **Jan. 2021 – Apr. 2021**
**605 (Data Analytics Firm for TV Ads)** – Junior Data Analyst – New York, NY **May 2020 – Aug. 2020**

- Utilized Databricks' PySpark/SparkSQL to optimize SQL queries operating on a daily data pipeline of 5+ vendors and billions of records to reduce Spark cluster costs and save future development time.
- Built Tableau dashboards to deliver daily reports with 50+ metrics that visualize the flow and accuracy of data.
- Conducted ad-hoc analysis on data methodology questions to improve the accuracy of 605's Platf0rm app.

**605 (Data Analytics Firm for TV Ads)** – Data Solutions Intern – Syosset, NY **Jun. 2019 – Aug. 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.

## TEACHING EXPERIENCE

**Univ. of Maryland** – Teaching Assistant (BUDT 758B: Big Data & AI for Business) **Aug. 2020 – Dec. 2020**

- Held weekly office hours and answered 75+ email questions to assist 30+ students with 5 PyTorch assignments.

**Self-Employed** – Private Chess Tutor – Princeton, NJ **Aug. 2016 – Aug. 2019**

- Coached 50+ children to become US Chess Federation-ranked players and medalists at dozens of tournaments.
- Taught 100+ lessons to hundreds of students at various chess academies (Hub for Learning) and volunteer groups.

**International Economics and Finance Society (IEFS)** – VP of Content – Univ. of MD **Dec. 2019 – Dec. 2020**

- Organized and taught educational, data science-oriented workshops 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.
- Led 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, investment banking, and SaaS business models.
- Spearheaded 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) (13 articles published.)

**Medium (Towards Data Science)** – Writer – Remote **Jul. 2020 – Present**

- Publishing educational data science articles in the premier publication for data science discourse (440k+ followers).
- Wrote a blog series (900+ reads) on Reinforcement Learning for AI newcomers. (adithyasolai.medium.com)

**Plainsboro Public Library Junior Chess Club** – President/Volunteer – Plainsboro, NJ **Feb. 2016 – Mar. 2018**

- Developed and taught chess lessons for 40+ beginners, novice, and advanced students every week.

**Plainsboro Public Library Junior Math Club** – President/Founder/Volunteer – Plainsboro, NJ **Jan. 2017 – Aug. 2017**

- Constructed math lessons and worksheets for 20+ students in grades 4-6 to explore advanced mathematics.

## 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 custom Blackjack environment built in OpenAI Gym to maximize Blackjack returns.
- Reduced casino edge from 20% to 4% by training an AI agent with my RL algorithm through 1 million epochs.
- Improved my RL algorithm by optimizing $\gamma$ (discount rate), $\alpha$ (learn rate), and $\varepsilon$ (explore vs exploit) for max returns.

**NBA Three Point Revolution** – Python (Pandas/scikit/seaborn/BeautifulSoup)

- Conducted Linear Regression to analyze significance of 3-pt efficiency in predicting team win % across 4 eras.
- Scraped 3000+ player season average records and team standings data dynamically using BeautifulSoup.
- Utilized Pandas for data transformations like splitting 20 years into 4 eras and conversion to per-minute efficiency metrics.
- Built violin plots with seaborn to visualize trends and outliers for 3-pt attempts and 3-pt efficiency across 20 years of data.

**Song Lyrics Analysis Script** – Java

- Analyzed 8 lyricism metrics in thousands of lyrics to investigate the lyrical creativity of 3 hip-hop artists.

**Linear Algebra Engine** – Java

- Implemented Matrix and Vector objects with functions like inverse, determinant, and row-reduced echelon form.

**AWARDS/HONORS:** ACT: 35 / 36, SAT: 1500 / 1600, Univ. of Maryland CMNS Dean's List x 4