



SOFTWARE ENGINEERING CAREER ROADMAP



HEADSTARTER x SJU ACM STUDENT CHAPTER x
GOOGLE DEVELOPER'S STUDENT CLUB x
SJU DATA SCIENCE CLUB



SJU ACM

Student Chapter

SIGN IN FORM:





Yasin's Resume

- Experience Section
- Hackathons Section
- Education Section
- Skills & Additional Info Section

YASIN EHSAN

yasinehsanjobs@gmail.com | linkedin.com/in/yasinehsan | github.com/YasinEhsan | medium.com/@yasinehsan11

EXPERIENCE

CAPITAL ONE - PRODUCT MANAGER, New York, NY

Aug 2020 - Present

- Directed **AWS** savings on how teams should budget which got featured in **CEO's product strategy** call of 26k+ associates
- Spearheaded **initiative** to reduce **AI/ML** cloud costs for Capital One's flagship chatbot (Eno), which gets **1Bn+** monthly interactions, by leading the full product development lifecycle, thus decreasing AWS costs by ~50% (**\$400K+ savings** YTD)
- Led **market research** by conducting 15+ business analysis interviews with cross-functional team leadership, thus identifying key issue: onus of AWS budget falls on leadership (VPs/Directors) not feature implementers (engineers/leads)
- Built and **launched platform** (2 SQL APIs, 3 web services) which grabs service-level costs of 10K+ Git repos, visualizes data and notifies implementers via Slack of overspent repos, thus assessing growing **AWS expenditures** (currently **\$300M+**)
- Owned **patent process** on cost-tracking *platform* after winning 1st place in division-wide hackathon with 2,715 associates
- Created **narrative** for product management directors to adopt cost platform during growth of team from 2 to 7 engineers
- Pitched **\$250M+** call center opportunity to VP after **initiating** ENOHACKs, selecting theme of creating AI persona chatbots

THE HEADSTARTER - CO-FOUNDER, PRODUCT MANAGER, New York, NY

Feb 2021 - Present

- Identified 10+ challenges NYC public-commuter-college students face in landing full-time \$100K software engineering jobs such as applying late, not seeking internships early on or lacking significant data points from peers and alumni network
- Designed 7-week pilot *fellowship* with 20+ workshops on personal branding, coding projects and technical interviews, while hearing from 10+ recent SWEs and incentivizing teamwork via open-source project, mock interviews and a hackathon
- Directed **product marketing** by posting on LinkedIn, Instagram and Facebook reaching 10K+ impressions with 400+ live attendees in 5+ pre-launch events featuring recruiters and live coding, resulting in **\$12K+ revenue** for July 2021 launch
- Assessing *fellowship* success by tracking **KPIs** such as Zoom attendance, resume reviews, mock interviews, interviews landed and offers received, while doing data analysis on team dynamics based on ambition, participation and college year
- Owning **product road mapping** for 3 engineers building video platform with 5-day watch limit and gamified cohort analytics

CHRONO GROUP - PRODUCT MANAGER, New York, NY

Oct 2019 - Aug 2020

- Ideated** and owned 4+ applications with payment walls for local businesses bringing SEO ranking to **top-3 Google Search**
- Led team of 4 developers using agile methodologies (scrum) to develop chronogrp.com using React, Node, AWS

CAPITAL ONE - SOFTWARE ENGINEERING INTERN, Dallas, TX

Feb 2019 - Aug 2019

- Pushed** geo-fence feature to app that generated **\$1Bn+** in car loans notifying users when <300meters of bookmarked cars
- Created an algorithm to optimize user movement during app product launch; a solution around Apple's location limitations

TEDx - FOUNDER, DIRECTOR, New York, NY

Aug 2016 - Aug 2017

- Spearheaded first TEDx in the largest US high school (5.8K+ students) by **leading 4 teams**, resulting in 180+ attendees
- Prepared keynotes from 40+ tryouts and **raised \$1.5K+** for event focused on the shift in communication in the modern era

HACKATHONS

12 HACKATHON WINS

Oct 2018 - June 2021

- Launched 10+ iOS apps with an average **7+ hours spent on ideation** and 15+ hours spent on design and development
- Investigated **user segment** pain points and created persona **customer journey** when pitching touch-feel interactive demos
- Implemented novel features like peer payments, 360 maps, voice AI with design patterns like singleton classes, MVC, etc

1st Place NYU Hack / Best Design by Facebook | 390+ UG STUDENTS | [Linkedin Post \(80K+ views\)](#)

Mar 2020

- RESEARCH / HYPOTHESIS**: raise capital for small businesses from everyday retail investors for equity
- Built a real-time payments by using Stripe API which can be used from Apple wallet / Apple watch

1st Place Estée Lauder Hack / Prize: \$7,500 | 270+ UG AND PROFESSIONALS | [Final Pitch Youtube](#)

Oct 2019

- RESEARCH / HYPOTHESIS**: recycle makeup bottles and redeem points for 35+ Estée sub-brands' products
- Created back-end communication on Google Cloud between B2B Store Kiosk App and B2C User App

1st Place Cornell Hack / Prize: Meet Bill Clinton | 320+ UG STUDENTS | [Featured IBM Blog](#)

Sep 2019

- RESEARCH / HYPOTHESIS**: connect NGO events with bachelor/bachelorette volunteers for Hurricane Harvey
- Developed asynchronous listeners that trigger push notifications when in 200 meter radius of NGO event

EDUCATION

The Product School Bootcamp, Product Management Certificate

Sep 2021

- Product Road Mapping, Product Management, Product Development, Product Strategy, Product Marketing, Product Launch

The City University of New York (CUNY), Queens College, Bachelors of Arts in Computer Science

Aug 2017 - Aug 2020

- NYC Mayor Demo (public wi-fi project), Economics Scholar (4 selected from 880+), University Endowment Speaker

SKILLS & ADDITIONAL INFORMATION

Product: Teamwork, Delegation, Stakeholder Management, Leadership, Market Research, UI/UX Design, Agile (Scrum, Kanban), Big Data

Technical: Tools - Tableau, Snowflake, Google Analytics, Jira | *Programming* - JavaScript (5 yrs), Python (3 yrs), Swift (3 yrs), SQL (2 yrs)

AWS Certs: Amazon Solutions Architect Associate, Amazon Developer Associate, Amazon Machine Learning Specialty

Activities: FACEBOOK Above and Beyond Computer Science Fellow | Impact Labs Entrepreneur Fellow (<5% acceptance) | Google Cloud Student Innovator (\$15K cloud credits distributed) | CUNY Tech Prep (web bootcamp) | CodePath (iOS Bootcamp) | National Science Foundation (funded project) | Coding for Dummies (President, High School) | Young Entrepreneurs Association (President, High School)





Faizan's Resume

- Education Section
- Experience Section
- Projects Section
- Skills Section

Faizan Ahmed

faizan.ahmed18@stjohns.edu | (347) 238-6332 | Lynbrook, NY | [LinkedIn](#) | [GitHub](#)

EDUCATION: Master of Science in Data Science, St. John's University, Queens, New York 2022 - 2023
Bachelor of Science in Computer Science, St. John's University, Queens, New York 2018 - 2022

EXPERIENCE:
Headstarter - Data Scientist, New York, NY Oct 2022 – Present

- Developed a machine learning pipeline in Python to extract text data from resumes and match them with jobs, streamlined the pre-processing pipeline and achieved 90% accuracy with custom trained NLP models, ensembling methods, and Transformers
- Spearheaded efforts to build out the data science infrastructure, worked with Software Engineers to ensure high-quality and clean data collection through AWS DynamoDB, identified key new data points to be captured on users to feed to ML models
- Integrated OpenAI API, Synthesia API, and HuggingFace Transformers to automate user feedback based on collected user data
- Deployed serverless AWS Lambda functions in Node JS to send automated emails with AWS SES and store metadata in DynamoDB
- Constructed an API to retrieve data stored in AWS DynamoDB tables, deployed as Discord Bot for efficient tracking of statistics
- Built dashboards with Python and Tableau to display KPIs on user data, identified areas of improvement and key trends
- Utilized statistical models and machine learning methods to develop a recommendation system for students and problem sets
- Communicate data-driven findings and recommendations to leadership, engineering, and product teams

Amazon - Business Intelligence Engineer Intern, Seattle, WA Jun 2022 – Sep 2022

- Collaborated with data scientists to develop and deploy a large-scale machine learning model in AWS SageMaker using Python, Spark, and Hadoop to identify customers that are most likely to increase sales, projected to increase profit by \$80M
- Utilized feature engineering techniques and statistical / exploratory data analysis to filter and clean raw data from over 100M customers, fed data to XGBoost model for training and performed hyperparameter tuning to maximize accuracy
- Implemented machine learning techniques to identify patterns and trends in customer data and improve marketing efforts
- Managed the data science project lifecycle, from ideation to implementation, using agile methodologies and documentation
- Wrote and optimized SQL queries and ETL pipelines to aggregate customer data from AWS Redshift and Big Data warehouse
- Developed SQL queries and Tableau dashboards that allows business leaders to A/B test marketing campaigns
- Extract meaningful business insights from data and present / communicate key takeaways to leadership and stakeholders

Bloomberg LP - Global Data Analyst Intern, New York, NY Jun 2021 – Aug 2021

- Utilized Python and Bloomberg Query Language (BQL) to automate a data extraction workflow and reduced time costs by 60%
- Developed an interactive data visualization tool using Python to efficiently compare equities and automate manual research
- Led a team of 5 interns to create a dynamic UI with HTML & JavaScript to optimize a workflow, reduced time spent by 50%
- Created a dynamic news automation template with Python to easily find and generate news stories around similar companies
- Aggregated data through Bloomberg's API and built dashboards to facilitate data driven decision-making among stakeholders

Google Developer Student Club - Engineering Team Lead, Queens, NY Oct 2021 – Mar 2022

- Led a team of 8 students to create a scalable full stack mobile application with Flutter and Firebase through agile development
- Designed data models and pipelines to process unstructured data, developed queries to analyze user data from NoSQL database
- Held weekly meetings to handle code reviews, pull requests on GitHub, update and assign Jira tasks, and plan out code sprints
- Engaged and collaborated with designers, product managers, and external stakeholders to optimize the user experience

St. John's University ACM Student Chapter – President, Queens, NY | [Website Link](#) | Sep 2021 – May 2022

- Facilitated meetings and workshops to provide training to over 100 members and managed an executive board of 8 students
- Directed the advancement of the Computer Science department through collaboration with Professors and professionals
- Designed and developed a fully responsive website using React JS for the club and trained members on how to make updates
- Deployed website using Netlify and set up CI/CD pipelines through Git and GitHub for automatic updates

PROJECTS:

NLP Recommendation System 2023

- Architected an end-to-end machine learning based recommendation system in Python to match users with grants. Utilized state-of-the-art NLP techniques with NLTK, Spacy, HuggingFace Transformers, and deep neural networks for high efficacy
- Build an API using Python and Flask to allow for easy access to data and cross collaboration and between engineering teams

Automated COVID-19 Detection with Deep Learning | [Publication Link](#) | Citations: 19 2021

- Utilized Tensorflow and Keras to build a deep learning model in Python capable of detecting and differentiating between instances of COVID-19 and Viral Pneumonia in x-ray images with 93% accuracy. Published in ACM Digital Government

Spotify Music Recommendations 2021

- Build a web application in Python that utilizes machine learning techniques to recommend songs based on a user's listening history using the Spotify API. Created data visualizations and dynamic user experience based on their music preferences

Financial Statement Screener 2021

- Developed a web scraper in Python to scrape data from 1000s of financial statements and government contracts to form investment insights, recommendations, sentiment analysis, and data visualizations for users

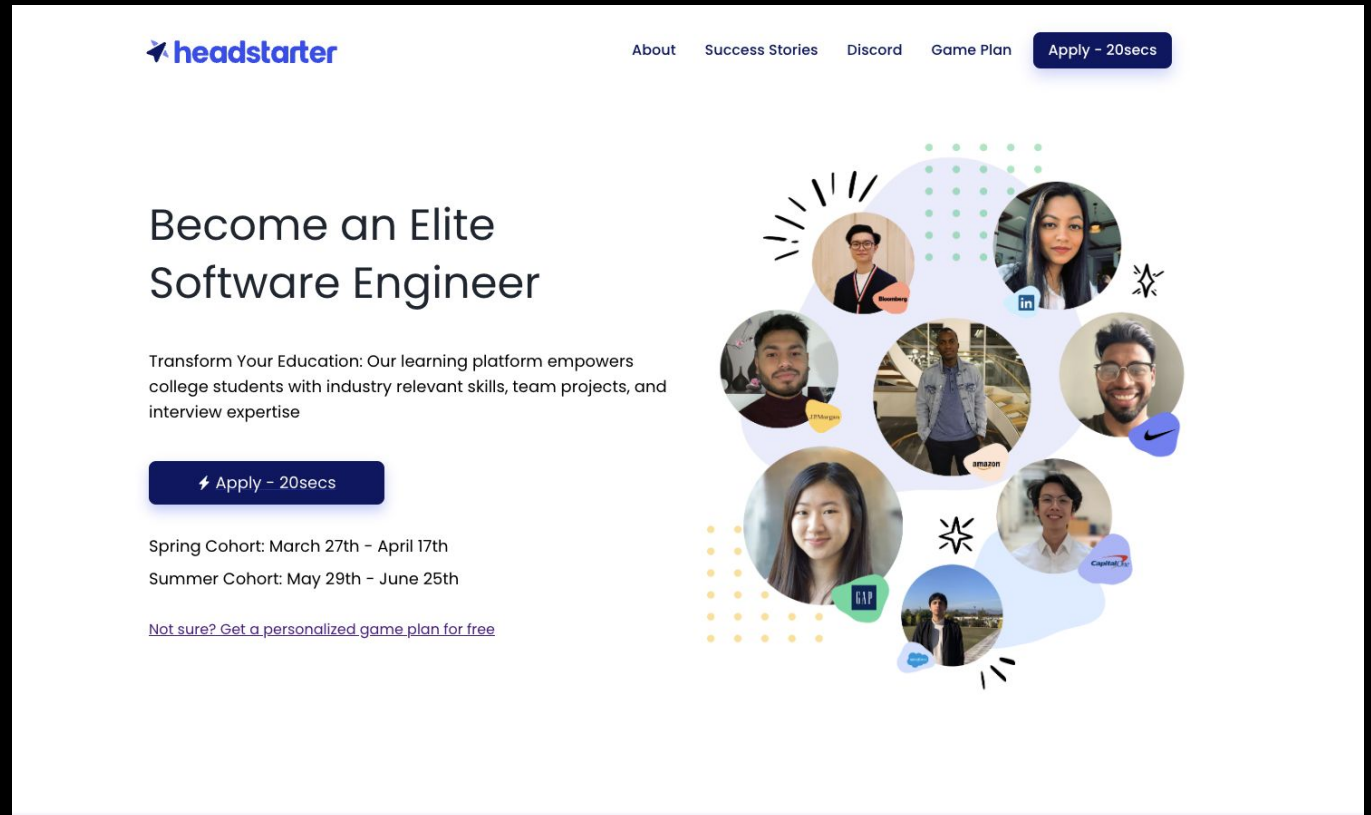
SKILLS:

- Python, Java, JavaScript, R, SQL, Express, Node JS, Amazon Web Services (AWS), MongoDB, Google Firebase
- React JS, PowerBI, Tableau, Spark, Hadoop, AWS Lambda, AWS SageMaker, S3, Redshift, Tensorflow, NumPy, Pandas, Docker
- Certifications: JPMorgan Chase Software Engineering Virtual Experience



Headstarter Website

theheadstarter.com



The screenshot shows the Headstarter website homepage. At the top, there is a navigation bar with the Headstarter logo, links for 'About', 'Success Stories', 'Discord', and 'Game Plan', and a prominent 'Apply - 20secs' button. The main heading reads 'Become an Elite Software Engineer'. Below this, a paragraph states: 'Transform Your Education: Our learning platform empowers college students with industry relevant skills, team projects, and interview expertise'. Another 'Apply - 20secs' button is present. The cohort information is listed as 'Spring Cohort: March 27th - April 17th' and 'Summer Cohort: May 29th - June 25th'. A link at the bottom says 'Not sure? Get a personalized game plan for free'. On the right side, there is a circular collage of student portraits, each accompanied by a company logo (e.g., LinkedIn, Amazon, Nike, Capital One, GAP, Spotify).

headstarter

About Success Stories Discord Game Plan Apply - 20secs

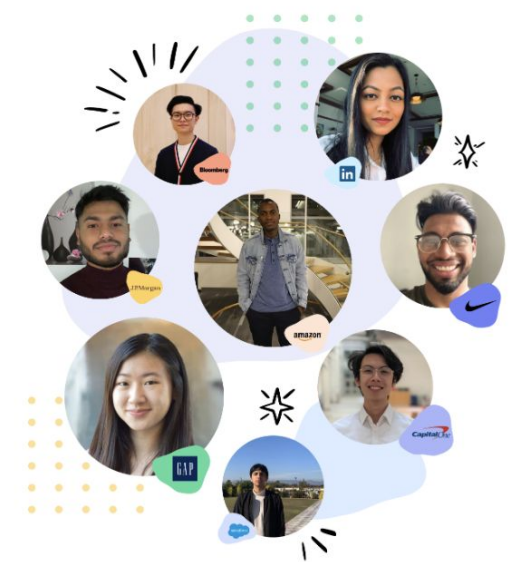
Become an Elite Software Engineer

Transform Your Education: Our learning platform empowers college students with industry relevant skills, team projects, and interview expertise

⚡ Apply - 20secs

Spring Cohort: March 27th - April 17th
Summer Cohort: May 29th - June 25th

[Not sure? Get a personalized game plan for free](#)



Headstarter Platform

- Career & Technical Assignments, along with Projects

The screenshot displays the Headstarter Platform interface. On the left is a sidebar with the 'headstarter' logo and navigation links under 'GENERAL' (Dashboard, Feedback) and 'ADMIN' (Accelerator, Users, Mock). The main content area features a 'Recently Submitted' section with player cards for Steven Granaturov, Kareem Virani, Almas Haque, and Nahean Khan. Below this is a table of assignments with filters for All, Career, Technical, Project, and Grading. The table lists assignments like 'Why Software Engineering' (Completed) and 'Hashmaps' (Incomplete). At the bottom, there are two leaderboards: 'All Time Top 50 Leaderboard' and 'This Week's Top 50 Leaderboard', and a footer indicating 'You are viewing day: 4'.

Assignment Name	Due	Assignment Type	Status
1 Why Software Engineering	In 4 Days	Career	Completed
1 Hashmaps	In 4 Days	Technical	Incomplete
1 Company Case - Google	In 7 Days	Project	Incomplete
2 Team Work Makes The Dream Work	In 5 Days	Career	Incomplete
3 Navigating University	In 5 Days	Career	Incomplete
3 Longest Consecutive Sequence	In 6 Days	Technical	Incomplete



Winter 2023 Cohort



Headstarter Discord Bot

- Quantify how well your resume matches with certain job positions
- See how well your resume matches with a specific job

Faizan used `/resume_score`

HeadstarterBot BOT 03/13/2023 10:18 PM

Top Job Matches

Job Position	Score
Data Scientist	71.79
Data Engineer	14.45
Data Analyst	3.89
Software Engineer	2.79
DevOps Engineer	1.68

Top Keywords

Keyword	Frequency
data	29
python	12
user	10
learning	8
science	7
model	7

[Documentation](#)

Faizan used `/job_match`

HeadstarterBot BOT 03/13/2023 10:25 PM

Job Match Scores

Resume Match Score: 279.7 (Excellent Match!)

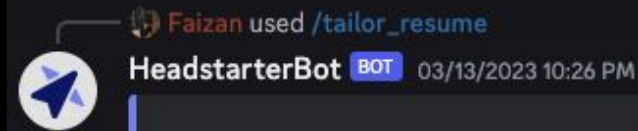
Keyword Similarity Score: 122.97 (Excellent Match!)

Top Keywords

Keyword	Frequency
data	10
learning	5
financial	4
machine	4
science	3

[Documentation](#)

Headstarter Discord Bot



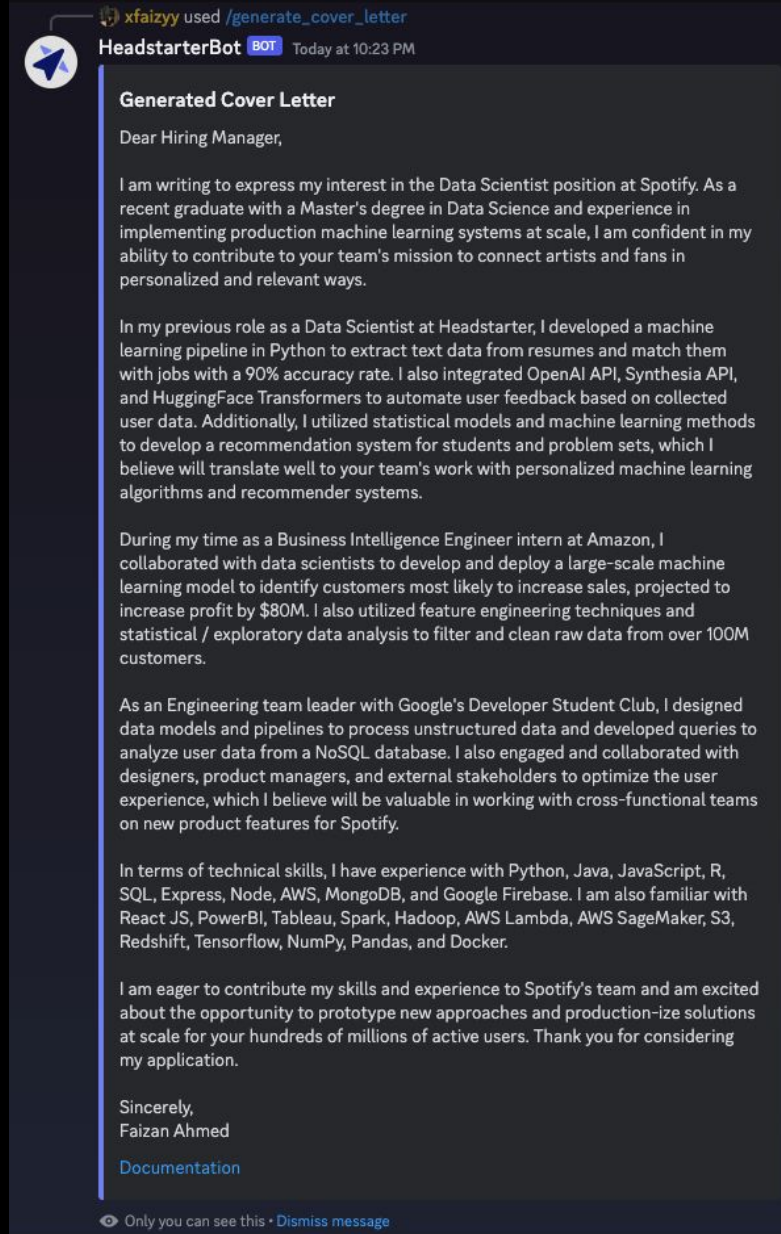
Faizan used `/tailor_resume`

HeadstarterBot **BOT** 03/13/2023 10:26 PM

Tailored Bullet Points for the Specified Job

1. Developed and deployed machine learning models for large-scale financial data analysis using Python, C++, Apache Spark, and Hadoop to identify trends and patterns, resulting in significant business value for clients.
2. Leveraged state-of-the-art machine learning techniques such as deep learning, Bayesian statistics, and NLP to build recommendation systems for clients that demonstrated high efficacy and accuracy, resulting in increased user satisfaction and retention.
3. Experience in working with large-scale, data-rich environments, including time series, panel data, and behavioral analysis, enabling the creation of highly effective and efficient models for complex data sets.
4. Proficient in Software Development Life Cycle (SDLC) methodologies such as version control and unit testing, ensuring high-quality code and effective collaboration with engineering teams.
5. Excellent communication skills, demonstrated through the ability to present highly technical research findings to technical and non-technical clients while actively promoting a diverse and inclusive team environment.

[Documentation](#)



xfaizyy used `/generate_cover_letter`

HeadstarterBot **BOT** Today at 10:23 PM

Generated Cover Letter

Dear Hiring Manager,

I am writing to express my interest in the Data Scientist position at Spotify. As a recent graduate with a Master's degree in Data Science and experience in implementing production machine learning systems at scale, I am confident in my ability to contribute to your team's mission to connect artists and fans in personalized and relevant ways.

In my previous role as a Data Scientist at Headstarter, I developed a machine learning pipeline in Python to extract text data from resumes and match them with jobs with a 90% accuracy rate. I also integrated OpenAI API, Synthesia API, and HuggingFace Transformers to automate user feedback based on collected user data. Additionally, I utilized statistical models and machine learning methods to develop a recommendation system for students and problem sets, which I believe will translate well to your team's work with personalized machine learning algorithms and recommender systems.

During my time as a Business Intelligence Engineer intern at Amazon, I collaborated with data scientists to develop and deploy a large-scale machine learning model to identify customers most likely to increase sales, projected to increase profit by \$80M. I also utilized feature engineering techniques and statistical / exploratory data analysis to filter and clean raw data from over 100M customers.

As an Engineering team leader with Google's Developer Student Club, I designed data models and pipelines to process unstructured data and developed queries to analyze user data from a NoSQL database. I also engaged and collaborated with designers, product managers, and external stakeholders to optimize the user experience, which I believe will be valuable in working with cross-functional teams on new product features for Spotify.

In terms of technical skills, I have experience with Python, Java, JavaScript, R, SQL, Express, Node, AWS, MongoDB, and Google Firebase. I am also familiar with React JS, PowerBI, Tableau, Spark, Hadoop, AWS Lambda, AWS SageMaker, S3, Redshift, Tensorflow, NumPy, Pandas, and Docker.

I am eager to contribute my skills and experience to Spotify's team and am excited about the opportunity to prototype new approaches and production-ize solutions at scale for your hundreds of millions of active users. Thank you for considering my application.

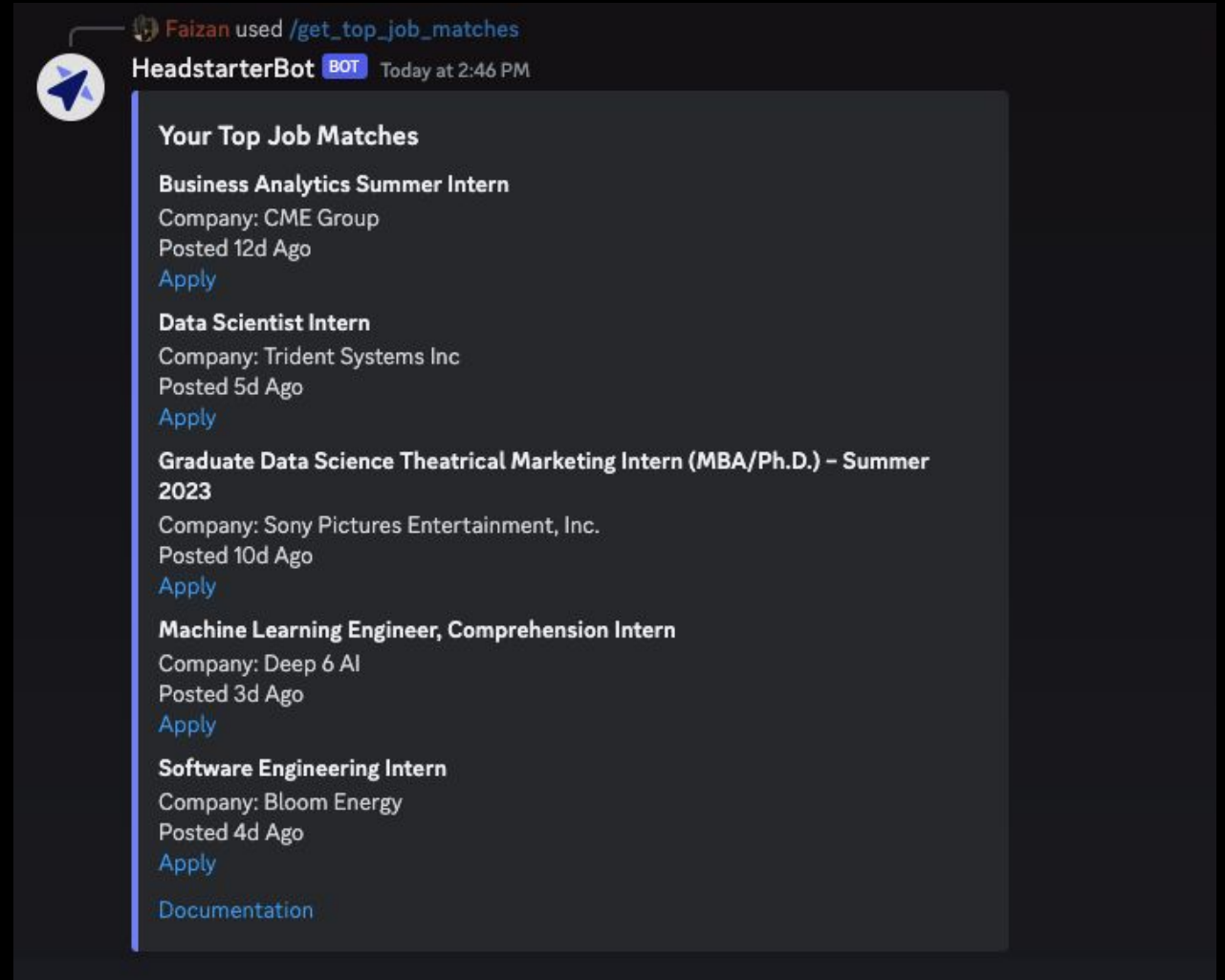
Sincerely,
Faizan Ahmed

[Documentation](#)

Only you can see this • [Dismiss message](#)

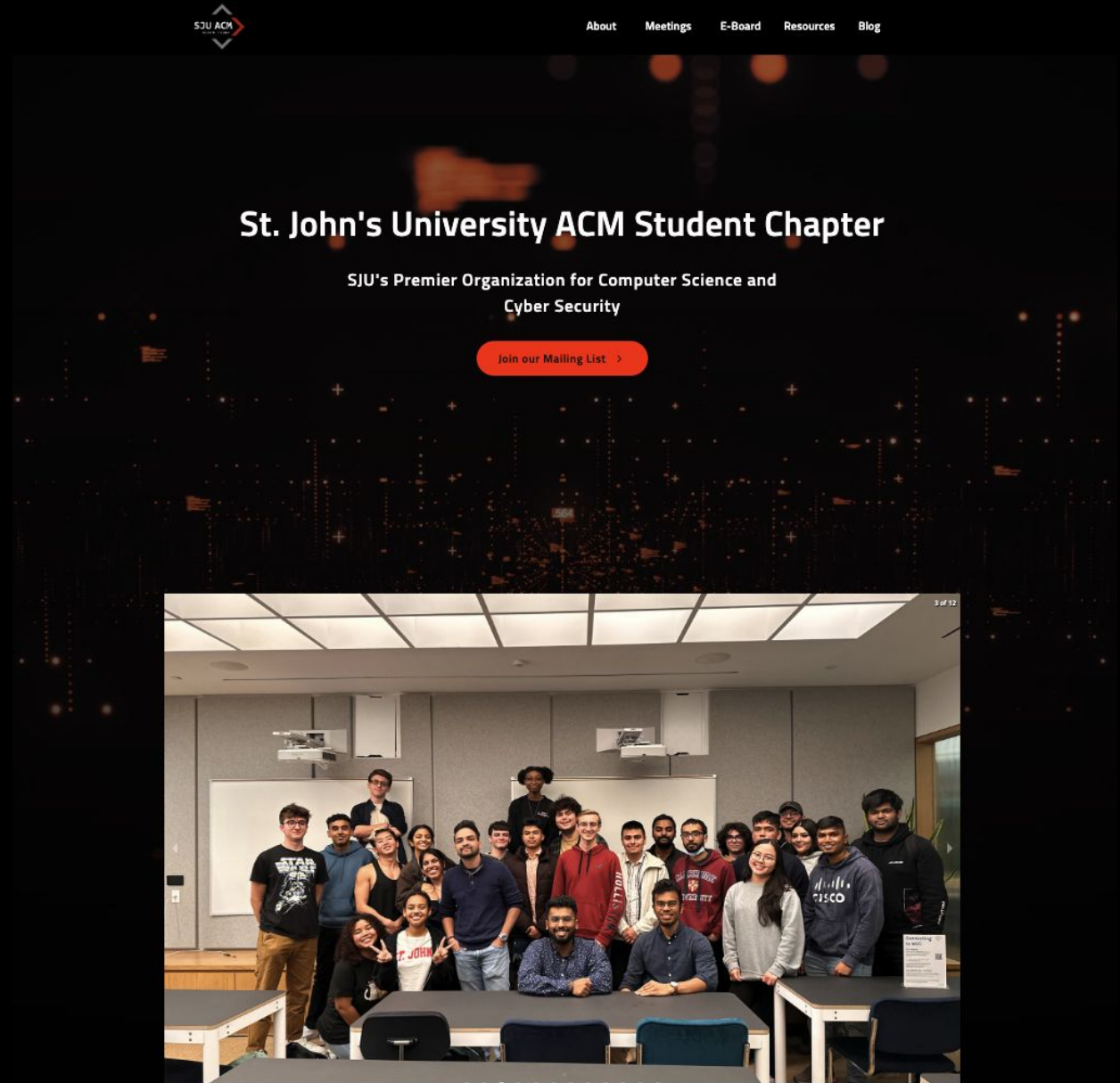
Headstarter Discord Bot

- Uses NLP to find the jobs that match the most with your resume
- Direct links to apply for each job!



SJU ACM Website

- sjuacm.com
- Slides & Recordings of all our meetings from the past 3 years!



SJU ACM Website

- Made with React JS, fully open source!
- View all the commits and changes to the code since inception

