

Jiaxuan (Crystal) Hu

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SUMMARY

Seeking summer SWE internship opportunities that utilize my proven zeal for technology, with a wide range of internship and project experience in full-stack web service, recommendation systems, and data architectures.

EDUCATION

Cornell University, College of Engineering

Ithaca, NY

Bachelor of Science in Computer Science (Dean's List)

Expected December 2023

Minor in Operations Research (ORIE); Courses: *Algorithm, OS, Functional PL, Data Structure, AI, Crypto, CV, etc.*

TECHNICAL SKILLS

Programming Languages: Java, Python, OCaml, JavaScript, C, Spark

Cloud Technology: AWS EC2, RDS, S3, DMS, EMR, Athena, Glue; Apache Hudi; Datadog

Web Development: Java Servlet, HTML, CSS, React, REST API, Spring, Hibernate, JWT

Project & Team Management: Jira, Confluence, Microsoft Teams, Slack, Git, Agile, Scrum

Databases & System: MySQL, Oracle SQL, Linux

INTERNSHIP & EXPERIENCE

MarketAxess Holdings Inc. (Return Offered)

New York, NY

Software Engineer Intern

June 2022 - August 2022

- Performed **Hudi data lake ingestions** from on-prem data source to **AWS S3** buckets and completed ETL operations and data storage using **AWS DMS, Glue, and EMR**, enabled better data modeling and analysis.
- Deployed data lake monitor on **Datadog** to perform nightly checks for data updates and performance.
- Proposed and developed **AWS Lambda** functions and test cases using **Python** to manage Glue table versions.
- Worked in a **full cycle development** environment, including dev, devprod, and staging to ensure QA and production get more qualified and stable versions for a major release.
- Designed and developed **Lambda functions** to visualize and obtain insights in data lake access, improving cloud resource allocation and monitoring. Access history is also stored in S3 buckets for safekeeping and future analysis.
- Participated and presented in **PI Plannings** and daily **Scrum** calls to define objectives and improve on new sprints.

Cirrus Data Solutions Inc. (Return Offered)

Syosset, NY

Software Engineer Intern

July 2021 - August 2021

- Led an intern team of 4 to enable automatic virtual disk creation, activation, preservation, and deactivation upon exits using **Python** and **REST API**, reducing operation time from hours to minutes.
- Designed and developed high level architecture of **APIs** to enable lab scenario **CRUD** operations.
- Developed scripts to **automate** Fiber Channel switch configuration and zoning using **Python and Expect**, which enhanced security and communications during **data migration** from source to destination storage.

PROJECTS

MovieRec: An OCaml based Movie Recommender

Description: A Graphics Window Application to recommend movies based on user manual inputs or filters.

- Designed and constructed a user-friendly graphic window using the **OCaml Graphics** library as a team lead.
- Received user manual inputs or filter selections of movies to implement **K-Nearest Neighbor algorithm** for movie recommendations.
- Developed a **kd tree** of movies in JSON format to circularly sort movies and reduced search time from days to **within 10 seconds**.
- Implemented **JUnit tests** for each part of the movie recommender.

Twitch+: A Personalized Twitch Resources Recommendation Engine

Description: A web application for users to search for twitch resources and receive recommendations.

- Constructed a web page with abundant user-friendly experience using **React** and **Ant Design**.
- Implemented **RESTful APIs** using **Java servlets** to retrieve real Twitch resources via **Twitch API** and stored data via **MySQL**, providing users with login, logout, and add favorite operations.
- Retrieved game info from Twitch resources to implement **content-based recommendation algorithms**.
- Deployed the Twitch recommendation service to **AWS EC2** for better stability.

AWARDS & ACHIEVEMENTS

- **Research:** Regneron STS Scholars; Rawlings Cornell Presidential Research Scholars.
- **STEM:** American Invitational Mathematics Examination (AIME) qualifier; Selected member of Cornell Micro-g Project Team; 2020 NASA Micro-g NExT Challenge qualifier; CS core courses facilitator & TA.