YiAn Chen

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Computer Science Masters student with strong analytical and design skills

EDUCATION

NORTHEASTERN UNIVERSITY *Jan 2022 - May 2024 (Expected)*   **San Jose, CA**

M.S. Computer Science | GPA: 4.0/4.0

Relevant Coursework: Programming Design Paradigm, Object Oriented Design, Algorithms and Data Structures, Discrete Math, Linear Algebra, Data Management and Processing

WORK EXPERIENCE

Amazon   **San Francisco, CA**

Software Development Engineer Intern   May 2023 – Aug 2023

- Designed and implemented the end-to-end workflow that automated flagging problematic vendor data
- Aggregated daily Amazon Music data using **Apache Spark** in **Scala** to write output to **AWS S3** through **EMR serverless**
- Designed **GET** and **WRITE RPC APIs** using dependency-injection design patterns and efficient data structures
- Defined APIs with **Smithy models**, accessed data using **object relational mapping**, managed database with **Liquibase**, and utilized **AWS** tools to write daily-streamed data from Amazon Music services to central database and flag ineligible data
- Automated the end-to-end process of big data aggregation to API-service invocation by building directed acyclic graphs structure using **Apache Airflow** task orchestrator

Starts Foundation   **Remote**

Full-Stack Developer, Project Leader   Oct 2022 – present

- Planned and lead a team of five to develop and maintain the official website for the Starts Foundation using **Gatsby**, **Node.js, Express.js, React**, **MongoDB,** and **GraphQL** to spread awareness, recruit volunteers, and raise money to help serve marginalized and underserved communities in Nepal
- Built a Content Management System by designing schemas using the **Sanity** framework to streamline user experience

TECHNICAL KNOWLEDGE

Programming Languages: Java, Python, C, C++, JavaScript, Kotlin, Scala, Solidity, SQL, HTML, CSS

Database: MongoDB, PostgreSQL, Redis, MySQL, Amazon Aurora

Framework/Tools: AWS, Docker, Apache Spark, Apache Airflow, Liquibase, React.js, Spring Boot, Google Guice, Maven, Gradle, Gatsby, Express.js, Git

HACKATHON

Meter Ethereum Hackathon - Decentralized web app for users to create/mint/trade NFTs   2022 Feb – 2022 April

- Tested and deployed smart contract to the **Meter chain** using **Hardhat** and **Infura APIs** for **JSON RPC**s resulting in up to **60 times more transactions** per second per node than the Ethereum blockchain
- Implemented smart contract with **Solidity** with functions based on the ERC721 standard for NFTs for secure transacting
- Enhanced user experience with **React Hooks** and **Ethers.js** for more interactions with contract functions on the blockchain
- Optimized security of archival storage with **IPFS** network to maintain decentralization and security of digital files

SELECTED PROJECTS

Cordiance Experiential Project – Industry project that uses algorithm to find matches in large datasets   2022 Nov – 2022 Dec

- Designed **string matching algorithm** to match separate data files from UNSPSC and Avalara Inc.
- Implemented **4-level prefix tree** data structure to parse UNSPSC data, and implemented text-filtering functions to **tokenize**, **filter**, and **stem** meaningful prefixes for more accurate matchings
- Preprocessed data with **Google Colab** using **Pandas**, **NumPy**, and **Natural Language Processing** techniques and **regular expression**

Tutor Match App – **MERN** stack web app for users to search and match tutors   2022 Oct – 2022 Oct

- Created dynamic and responsive **Node** app using **React, Express.js,** and **MongoDB** with **full CRUD operations**
- Manipulated **1000+** data using **Observable notebook** to inject to **MongoDB** and designed **non-relational, functional backend modules** and **RESTful API**s
- Iterated with **Google Lighthouse** and **Deque Axe DevTools** to improve **usability** and **accessibility**

Mars Roverland – Full stack web app that generates engagement with NASA Mars rovers   2022 Jan – 2022 April

- Built backend **REST APIs** with **Java Spring Boot** and dynamic and responsive frontend with **React**, **CSS/SASS**, and **Three.js** for 3D effects
- Implemented relational models with **MySQL** and **Hibernate, JDBC** for object-relational mapping and query