JACOB IRELAND

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EDUCATION

Columbia University **Sep. 2020 – May 2024**
Bachelor of Arts, Columbia College *New York, NY*
- Major: Computer Science, GPA: 3.69, Dean's List
- Varsity Athlete, Captain of Men's Cross Country and Track and Field, competing as a 3-season NCAA Division 1 athlete (cross country, indoor track, outdoor track)

SKILLS

Languages: Python, JavaScript, SQL, HTML/CSS, C/C++, Java
Software: React JS/Native, Node.js, MySQL, MongoDB, Git, Google Cloud VM, WSL, Figma, Balsamiq, VMWare Workstation Pro, VS Code, Latex, Microsoft Power Apps
Relevant Coursework: User Interface Design, Computer Networks, Operating Systems in Linux, Advanced Programming in C, Intro to Databases, Programming Languages and Translators, Artificial Intelligence, Malware Analysis and Reverse Engineering, Computer Science Theory, Fundamentals of Computer Systems, Data Structures in Java, Computational Linear Algebra

PROJECTS

Cryptocurrency Application | *Python, Google Cloud VM* **May 2024**
- Implemented a distributed blockchain as a linked-list of block structures, utilizing a proof-of-work algorithm to ensure validity of the chain
- Developed a custom Peer-to-Peer protocol allowing for consistent packet formation, sending, and receiving, allowing for a network of up to 15 nodes to effectively communicate via TCP connections.
- Built a simple cryptocurrency application on top of the distributed blockchain, implementing traders that initiate wallet transactions and miners that verify transactions and mine blocks.

IOS Mobile Application - MoodMates | *React Native, Backendless, JavaScript* **November 2023**
- Performed contextual inquiries & user studies to inform creation of pixel-perfect Figma prototypes, utilizing user-centered design techniques.
- Collaborated with group to design and code React Native mobile application that allows users to connect with others in ways that align with their mood and energy.
- Utilized cloud database software to store user data and implemented API calls to read this data and display it throughout the app, creating a personalized experience for every user.

Data Manipulation Language API | *C, Linux kernel, VMWare* **April 2023**
- Developed an API that allows users to read, create, update, and delete entries in a database.
- Parsed user inputs to format MySQL queries (SELECT, INSERT, DELETE, UPDATE) and executed them on a given database to manipulate data and produce the user's desired results.

Personal Website Portfolio | *JavaScript, HTML/CSS, React JS* **July 2022**
- Developed a personal website portfolio that anyone can access to view my experience, projects, and career interests and launched it under the domain www.jacobireland.org.
- Built in VS Code using React JS, Javascript, HTML, and CSS during summer 2022 as a personal project.

WORK EXPERIENCE

Project Management Intern **June 2023 – current**
YMCA of NYC *New York, NY*
- Built 10+ custom work flows using 3-tier database architecture to populate management database system with user-generated content for centralized collaboration between management team.
- Created a website to act as a central location for communication between project management team and organization sub-branches, informing branches on project timelines, resources, and contacts.
- Facilitated integration of a new software for daily use of all organization employees, training over 100 employees through guided walkthroughs and technical problem resolutions.
- Assisted with monitoring project progress, developing project plans, and coordinating project timelines between management, branches, and vendors.

Teaching Assistant for Data Structures in Java **Sep. 2022 – Dec. 2022**
Columbia University *New York, NY*
- Instructed students on the understanding and implementation of essential topics and data structures in Java including stacks, queues, array lists, linked lists, trees, hash tables, time complexity, and sorting and search algorithms.

LEADERSHIP / ATHLETICS

Team Captain **2023-2024**
Men's Cross Country and Track and Field *Columbia University*
- Dedicate 20+ hours a week to practice and competition.
- 2023 Academic All-Ivy, Columbia Top-10 All-Time in the 3000 meter Steeplechase and indoor 5000 meter, Captain (2023-2024).