Ryan Newkirk

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EDUCATION

NORTHWESTERN UNIVERSITY MCCORMICK SCHOOL OF ENGINEERING — Evanston, IL
Master's Degree in Computer Science and Bachelor's Degree in Computer Science — Expected Jun 2024
Major in Computer Science; Minor in Data Science & Engineering | GPA: 3.801 | Major GPA: 3.914
Relevant Coursework: Scalable Software Architecture, Deep Learning, Statistical Language Modeling, Agile Development, Operating Systems, Design & Analysis of Algorithms, Data Structures & Algorithms, Human Computer Interaction

WORK EXPERIENCE

SQUARE (BLOCK, INC.) — (Remote) Chicago, IL
Software Development Intern — Jun 2023 – Sep 2023
- Integrated user testing capabilities into the Web Payments SDK reference, using Svelte, Optimizely, OneTrust, internal service APIs, Cypress, GitHub Source Control. Created and deployed an A/B test for a front-end feature. Authored Design Doc, Experimentation Doc, and Runbook. Led scrum meetings for the Developer Experience team using Jira, Trello.
- Prototyped an automated phone calling system for Square sellers using OpenAI GPT, Square APIs, Twilio, Amazon Lex.

SQUARE (BLOCK, INC.) — (Remote) Chicago, IL
Software Development Intern — May 2022 – Sep 2022
- Developed a new front-end feature for Square's Web Payment SDK website for users to simulate making payments using an in-browser code editor. Used Svelte, Typescript (HTML/CSS/JS), CodeMirror API, Cypress, GitHub Source Control.
- Prototyped an ecommerce site using Square Payment API and JS servers. Prototyped a cross-platform promotion sharing tool for Cash App/Square Seller Dashboard.

ARGONNE ENERGY SYSTEMS DIVISION — New York, NY
Software Development Intern — Jun 2021 – May 2022
- Developed Python scripts and MySQL database to retrieve and store US power utility companies' real-time customer outage data, representing 70% of US population, for smart outage forecasting,. Developed geo-mapping functions.

PROJECTS

IEEE NORTHWESTERN CHAPTER PROJECT - "REMEDI" — Evanston, IL
Project Manager — Sep 2022 – Apr 2023
Managed a team of four students, leading the development of a health/medicine management app. Utilized an ensemble ML model to scan prescription bottles and built a GPT-powered health assistant. Technologies used include React, Firebase API, Python, Google Vision API, spaCy, OpenAI's GPT3 API, Tailwind CSS, and Mantine. 2023 Showcase Award Winning Project.

NORTHWESTERN HACKATHON - "SWIFTERNSHIPS" — Apr 2023
- A platform connecting college students with micro-internships for professional experience, built with AWS Lambda, Twilio, S3, Firebase Realtime Database, Cloudflare, and Sendinblue. Live at swifternships.tech. 2nd place out of 250+ participants.

IEEE NORTHWESTERN CHAPTER PROJECT - "SUMMRI" — Apr 2022
- Built a program that detects brain tumors in MRI scans using an image segmentation model using Python ML Framework Keras, as part of a team project to create an assistive tool for radiologists. 1st place at the 2022 Showcase.

NORTHWESTERN HACKATHON - "GIFT WHISPERER" — Apr 2022
- Created a React site utilizing OpenAI GPT-3 (pre-ChatGPT) for personalized gift recommendations. Used Multithreading and Web Scraping to dynamically update our site with real product info. 1st place out of 100 participants.

ACTIVITIES

GOOGLE KICK START & CODE JAM — 2019 – Present
- Competed in an international programming competition, solving a set of algorithmic problems in a fixed amount of time. Qualified for Round 1, scored in the top 4% worldwide.

GOOGLE COMPUTER SCIENCE SUMMER INSTITUTE — Jun 2020 - Sep 2020
- Learned to build web applications using the p5 Library, APIs, Node.js, and ExpressJS.

TECHNICAL SKILLS

Python (NumPy, Pandas, Tensorflow, Jupyter Notebook), C, C++, Java, Javascript (React, Node.js, Vue, Vite, Svelte), Cypress, R, AWS (S3, Lambda, RDS), Git, GitHub, Haskell, Scheme (Racket), SQL (MySQL Workbench), VSCode