

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: Game Design and Development, Game Development Studio, Deep Learning, 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 - *Developers Experience*

Jun 2023 – Sep 2023

- Integrated user testing capabilities into the Web Payments SDK reference. Used Svelte, Optimizely, OneTrust, internal service APIs, Cypress, GitHub. Created and deployed an A/B test for a frontend feature. Authored Design Doc, Experimentation Doc, and Runbook. Led scrum meetings using Jira, Trello. Ran testing party.
- 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 - *Developers Experience*

May 2022 – Sep 2022

- Developed a new frontend 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.
- Developed a cross-platform discount and marketing promotion sharing tool for Cash App/Square Seller Dashboard. Used Node.js servers and the Square Payment API.

ARGONNE NATIONAL LABORATORY

(Remote) Chicago, IL

Software Development Intern - *Energy Systems Division*

Jun 2021 – May 2022

- Developed Python scripts and a MySQL database to collect real-time customer outage data from 232 million US residents for power outage forecasting. Designed and implemented geo-mapping functions for comprehensive power outage analysis.

PROJECTS

PUZZLE PLATFORMER "PROPERTY THEFT" - CS 377 GAME DEVELOPMENT STUDIO

Jan - Mar 2023

- Designed levels and mechanics for a physics based puzzle platforming game using Unity and C# where the player can steal/swap the properties of objects. Weekly playtesting results ranked our game #1 of 20 over the course of the entire class.

IEEE NORTHWESTERN CHAPTER PROJECT - "REMEDY"

Evanston, IL

Project Manager

Sep 2022 – Apr 2023

- 2023 Showcase Award Winning Project out of 14 teams. Managed a team of four students, led the development of a health/medicine management app. Utilized an ensemble ML model to scan prescription bottles and built a GPT-powered assistant. Used React, Firebase API, Python, Google Vision API, spaCy, OpenAI's GPT3 API, Tailwind CSS, and Mantine.

NORTHWESTERN HACKATHON - "SWIFTERNSHIPS" - swifternships.tech

Apr 2023

- Created a platform connecting college students with micro-internships for professional experience, built with AWS Lambda, Twilio, S3, Firebase Realtime Database, Cloudflare, and Sendinblue. 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.

TECHNICAL SKILLS

Python (NumPy, Pandas, Jupyter), 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, Blender (Modelling, Rigging), Unity