Emily R. Robinson

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EDUCATION

Cornell University, College of Arts & Sciences | *B.A. Computer Science* August 2019 - May 2023

Related Courses: Foundations of AI, Practicum in AI, Practical Tools for Operations Research, Machine Learning and Data Science, Intro to ML, Theory of Algorithms, Data-Driven Web Applications, Data Structures and Functional Programming, OO Programming and Data Structures, Discrete Structures and Logic, Engineering Statistics, Intro to Operating Systems, Unix Tools and Scripting, Foundations in Leadership

Online Courses: Intro to MongoDB (LinkedIn), Intro to Deep Learning (Kaggle), Advanced SQL (Kaggle), Intermediate Machine Learning (Kaggle – Presently), R Essential Training (LinkedIn – Presently)

TECHNICAL SKILLS

Programming Languages: Python (Advanced), Java (Advanced), SQL (Advanced), R (Intermediate), C (Intermediate), C# (Intermediate), C++ (Intermediate)

Data Analysis, Visualization, Machine Learning: TensorFlow (Advanced), Keras (Advanced), Pandas (Advanced), NumPy (Advanced), Seaborn (Advanced), D3 (Advanced), Qualtrics (Advanced), MySQL (Advanced), Statsmodels (Advanced), Excel (Intermediate), Sci-kit Learn (Intermediate), SciPy (Intermediate), Matplotlib (Intermediate), MongoDB (Intermediate), SQLite (Intermediate), Microsoft SQL Server (Intermediate), Oracle (Intermediate), PostgreSQL (Intermediate), Firebase (Intermediate), Microsoft Access (Intermediate), Tableau (Intermediate), Power BI (Intermediate), Google Cloud (Intermediate), BigQuery (Intermediate)

Web Development and Scripting: HTML5/CSS3 (Advanced), JavaScript/TypeScript (Advanced), React (Advanced), Bootstrap (Advanced), REST API (Intermediate), Flask (Intermediate), Tailwind (Intermediate), XML (Intermediate), Bash Scripting (Intermediate)

WORK EXPERIENCE

Technical Support Lead | *C R Market Surveys (Contract)* January 2021 – Present

- Spearhead the company's website, utilizing **Google Analytics** to improve website traffic, currently achieving a 30% increase.
- Manage and clean a 20,000+ respondent database using **Microsoft Access** and **Excel**, in addition to programming and analyzing consumer surveys using **Qualtrics** and **Momentive** software.
- Analyze UX research data related to website and app measurement.
- Enhance and maintain the company's technical hardware used for data collection; includes computers, tablets, and mobile devices.

Statistics and Math Tutor | *Sylvan Learning (Part-time)* October 2023 – Present

- Support 30+ students per week, ranging from elementary to 12th grade.
- Assist with math assignments, tutoring in Calculus and **Statistics**.
- Deliver session reports to supervisors and parents, aiding in the placement of students within Sylvan programs and learning levels.
- Develop rapport with students and establishes a fun learning environment Maintain a positive attitude and demonstrate enthusiasm for teaching.

Data Analyst | *C R Market Surveys (Contract)* October 2023 – December 2023

- Designed an AI model for analysis on diverse focus group transcripts, capturing perspectives on distinct health products to strengthen assertions in C R Market Survey's Center for Disease Control project report.
- Utilized AI to analyze positive and negative sentiment from research participants and used insights for qualitative report writing, contributing more than 40% of the statistical figures used in the report through calculations derived from the AI model.
- Accelerated the final report completion timeline three weeks ahead of schedule through the integration of an AI model and Otter.ai for automated transcript generation.
- Performed occasional quantitative and qualitative data analysis for general issues for C R Market Surveys using **R** and **Python**, utilizing Python libraries **NumPy, Pandas**, and **TensorFlow** for AI model development.

Windows System Developer Contractor | *NetWeaver (Contract)* September 2023 – October 2023

- Created a bootable USB for automated Windows 10 installation with custom software on 15 computers.
- Developed 2 **batch script** files for automatic software installations upon initial user login.
- Programmed an unattended installation file in **XML** to create multiple users and execute first login commands.
- Edited the Windows 10 image using Deployment and Image Tools Environment (DISM).

Software Developer Intern | *Pairup* May 2022 – August 2022

- Developed a **React** web app with a dynamic bar graph using Uber's react-vis library, providing essential mentor-mentee pairing insights.
- Created a separate React web app to analyze user data using **SQL** queries to the company's user database in **Google Cloud**, resulting in 45% improvements in user engagement analysis.
- Utilized **TypeScript, JavaScript**, and **JSX** in the development of both applications.

Python Teacher's Assistant | *Cornell University (Part-time)* September 2020 – May 2022

- Conducted weekly in-person group sessions, providing guidance to 50+ students in test preparation and coding assignments.
- Facilitated students' understanding of programming concepts through interactive **Python** coding demonstrations and practical exercises.
- Addressed Python coding questions on the Ed Discussion platform per week.
- Graded student assignments and exams on Gradescope, offering feedback, which helped students' scores, maintaining effective communication with students and staff via email and Slack.

DEVELOPMENT PROJECTS

Time-Tracker App June 2023 – Present

- Develop a full-stack web application that helps users manage their time and enhance productivity through efficient task tracking.
- Create the application using **React** and **Typescript** with a **Firebase** user database.
- Utilize Firebase Authentication and create **REST APIs** with **Python Flask.**
- Leverage the React Router library for seamless navigation between different pages.
- Employ Post CSS and Tailwind for streamlined **CSS** development, resulting in improved code efficiency and maintainability.

Restaurant Recommendation AI January 2023 – May 2023

- Led a three-person **Agile** team in the development of an AI system coded in **Python** that delivers personalized restaurant recommendations.
- Implemented a user input feature to capture restaurant preferences and used the data to query the **Yelp API**.
- Utilized **TensorFlow** to train a **neural network** on labeled review data, calculating the likelihood of positive reviews.
- Calculated total normalized review and rating scores for each restaurant, applying **Principal Component Analysis** for weight assignment.
- Created a scoring function that combined the weighted scores to assign a comprehensive evaluation for a given restaurant.
- Presented the top-N recommendations based on restaurants' scores.
- Managed seamless collaboration, overseeing project progress, coordinating tasks, and generating detailed project reports.

GDP Map September 2022 – October 2022

- Directed a three-person **Agile** team in designing data visualizations of GDP and life expectancy data using **JavaScript** and the **D3** library.
- Developed over 5 functions to filter, clean, format, and parse data.
- Created an interactive choropleth map with a hover feature that displays the selected country's GDP, life expectancy, and population.
- Facilitated project completion by leading 30+ team meetings and preparing 3 project reports with quantitative and qualitative insights.

Computer Vision August 2022

- Developed and defined the **Convolutional Neural Network** (CNN) architecture using **TensorFlow** and its **Keras** sub-library.
- Preprocessed and augmented the image dataset to improve model performance and robustness.
- Trained the CNN on the dataset of facial images, achieving a classification accuracy of over 95%.
- Fine-tuned hyperparameters and conducted experiments to improve model generalization and performance.
- Implemented data validation techniques to prevent overfitting and improve the model's reliability.
- Collaborated with a team of two to brainstorm ideas, share insights, and fine-tune the model's performance.

Optimal Number of Nurses April 2022

- Developed a model that determines the optimal number of nurses for Cornell's Covid quarantine and isolation team.
- Conducted data analysis and visualization using **Python** with **NumPy, Matplotlib**, and **Pandas**.
- Coded functions to calculate the probability of testing positive and simulate diverse student population scenarios with varying Covid testing positivity rates.
- Calculated and visualized the number of overage and underage nurses based on simulated data.
- Created a cost-minimizing function for optimal nurse staffing based on overage and underage values.

Sales Data Visualizations March 2022

- Created sales data visualizations using **Tableau**.
- Designed a zip code-based sales volume map and conducted in-depth geospatial analysis to uncover underlying patterns.
- Generated a detailed customer information map, including city, customer ID, order type, and order counts.
- Utilized **SQL** for data aggregation and sorting, strengthening the analysis of sales data.