

# Dylan P. R. Jackson

dylanpjackson.com | github.com/DylanPJackson  
frprdjackson@gmail.com | 484.832.4162

## EXPERIENCE

### AMAZON | SOFTWARE DEVELOPMENT ENGINEER

Apr 2022 - Sep 2023 | Seattle, WA

- Led architecture and development of a web application displaying Alexa skill routing model metrics to improve scientist model analysis time from multiple days to one day utilizing TypeScript, JavaScript, React, Python and AWS CDK.
  - Built dynamic frontend with features enabling user-customized data queries via live API interactions to custom backend. Surfaces performance insights through custom metrics and graphs.
  - Engineered backend using a PostgreSQL database w/ schema design. Automated by AWS CloudWatch trigger on daily Spark bash data collection job. All components maintained through AWS CDK.
  - Introduced a Data Annotation Request Form, reducing the annotation bottleneck from 4 weeks to 1 week, boosting scientist and researcher efficiency.
- Expedited LLM experimentation timeline a month in advance by onboarding scientists to offline development system.
  - Created extensive runbook for LangChain experimentation in Python with support for multiple dev environments.
  - Developed infrastructure in AWS AppConfig to support parity between online and offline LLM systems.
- Enabled hundreds of existing and developing Alexa API's to onboard to new LLM inference system, seamlessly integrating old architecture with new inference system, using Java.
  - Implemented new Alexa Orchestration action types by rolling out feature across rapidly evolving LLM ecosystem.

### AMAZON | SOFTWARE DEVELOPMENT ENGINEER INTERN

Jun 2021 - Aug 2021 | Seattle, WA

- Enabled Alexa scientists and engineers to monitor previously unavailable resource utilization data of Hyprank and Shortlister (skill routing) models by creating generic benchmark framework in Python.
- Partnered with peer intern to display CPU, GPU and time usage metrics through custom frontend in secure environment.

### WAYFAIR | DATA ANALYTICS CO-OP

Jan 2021 - Jun 2021 | Boston, MA (Remote)

- Provided managers ability to more thoroughly evaluate team performance, improving team satisfaction on average.
- Supported through analytical reports using R, Python, and SQL to lead discussion about employee performance.

### MITRE | SOFTWARE DEVELOPER INTERN

May 2019 - Aug 2019 | Bedford, MA

- Increased internal hiring speed potential from one month to one week with internal chatbot in Microsoft Teams to serve as intermediary between hiring manager and employees. Utilized Microsoft Bot Framework, Microsoft Graph, built with C#.
- Lead proposal for new co-op project to create voice assistant to aid in new co-op onboarding.

## PROJECTS

### COMPUTER SCIENCE HOUSE INTRODUCTORY EVALUATOR

- Developed a Tertiary Logistic Regression Classification Model for RIT's Computer Science House which predicts the intro process evaluation result of an applicant with 83% accuracy.
- Created with numpy and scipy in Jupyter Notebook, data curated and cleaned from PostgreSQL server.

### COVID FACTORS

- Created weighted average ensemble model which outperformed most COVID fatality rate models in accuracy and precision by manually curating, processing, and visualizing data in R.
- Recommended which models to trust depending upon evolving circumstances to anticipate possible fatality trends.

## EDUCATION

### ROCHESTER INSTITUTE OF TECHNOLOGY

BACHELORS IN COMPUTER SCIENCE

Dec 2021 | Rochester, NY

RIT AI CLUB : PRESIDENT

COMPUTER SCIENCE HOUSE : EVALUATIONS DIRECTOR

NEW STUDENT ORIENTATION : ORIENTATION SUPERVISOR

COMPUTER SCIENCE DEPARTMENT : STUDENT AMBASSADOR

HONORS PROGRAM

## LANGUAGES & SKILLS

Python | R | SQL | Matlab | Java | C | C# | C++  
numpy | scipy | pandas | LangChain  
Keras | Tensorflow | scikit-learn | pytorch  
HTML | CSS | Javascript | Typescript | React  
Data Processing | System Design | Modeling

## HOBBIES

Running | Climbing | Snowboarding | Spikeball  
Piano | Swing Dancing | French | Video Essay