

JESSE ELLIN

+1(206)384-0174 ◊ jesse.ellin@gmail.com ◊ www.jesseellin.com

CAREER OBJECTIVE

To work in machine learning development, particularly Natural Language Processing, Natural Language Generation, and image detection with a focus on privacy, fairness, and ethics.

EDUCATION

Rensselaer Polytechnic Institute, Troy NY
M.S. Computer Science

September 2022 - May 2023

Rensselaer Polytechnic Institute, Troy NY
B.S. Computer Science and Cognitive Science

May 2022
GPA: 3.53

WORK EXPERIENCE

SWCA Environmental Consultants, Remote
Assistant Data Specialist

May 2021 - Present

- Helped develop a Progressive Web App to run deep-network image object identification from drone footage. This built my understanding of full-stack development and taught me the React and Node frameworks.
- Updated our data labeling interface to accept and process audio inputs to generate filtered spectrograms for object identification labeling. This gave me experience with the Django environment and audio processing.
- Developed an implementation of Microsoft's Biophony model to accurately identify Bachman's Sparrow calls as a proof-of-concept. I am currently expanding the model to a generalized interface.
- Worked on multiple NLG data-to-text synthesis and generative labeling projects, which optimized workflow for internal teams and provided opportunities for external advertising.
- Designed a generalized object detection pipeline that was designed to be readily extensible across diverse project spaces.

Guidance Analytics
Director of Development

January 2021 - April 2022

- Updated and documented existing code base, allowing for optimized performance and rapid updates.
- Developed Lighthouse labeling service for client-facing data upload and professional labeling. This relied on full-stack development knowledge and UI/UX skills, providing a platform for large-revenue projects and increased publicity.
- Developed and implemented best practices and compliance measures for development team, which introduced AGILE methods into our teams.

TECHNICAL SKILLS

Python; C++; C; Java; HTML/CSS/JavaScript; LaTeX; GitHub; AWS; Inventor Autodesk; Adobe Photoshop/Clip Studio Paint; MS Office; Ubuntu

RESEARCH

MS Research
PI: Dr. Alex Gittens

Sep 2021 - Present

- Modern approaches in graph anomaly detection tend to fail in out-of-distribution anomaly types. Our efforts, partnered with IBM, are to create a graph anomaly detector that is strong at detecting anomalies it has never encountered.
- Our current approach is using autoregressive flow graphs and generative model error to predict neighborhood-level anomalies in knowledge graphs.

Machine Common Sense
Tetherless Worlds Constellation; Dr. Minor Gordon

May 2020 - Sep 2020

- Created an ETL pipeline to process WebDataCommons naturally written product description text from a loosely structured database. The results from this pipeline were then used to generate bucketed spatial sizes that helped develop common sense spatial relations between generic object classes.
- This project was working towards an overall common sense model that would help expedite a lot of the deep processes currently being tackled by machine learning.

Critical CS
Dr. James Malazita

Jan 2019 - May 2020

- Modern computer science pedagogy focuses on problem solving and code development as the primary learning goal of the degree program. Our goal was to develop a new paradigm that focused on the ethical underpinnings and exterior consequences to the software being developed.
- By teaching ethics and critical thinking in computer science, we hoped to train programmers and data specialists who are able to face real-world problems with a more holistic approach and a focus on the bigger problems.

PROJECTS

Personal Website

Using HTML, CSS, and JavaScript, I am developing a personal website that will serve as an informal CV and microbiography. The purpose of this project is to further develop my front-end development skills and create a personal landing page on the internet.

Graphical Neural Network Builder

Full-stack development project with the goal of providing a graphical interface for building deep neural network architectures. Once the flow diagram has been implemented on the front-end user interface, the back-end structure will provide the general code that will build the architecture in the selected language and libraries (primary focus is given to Python with TensorFlow/Keras).

PROGRAMMING LIBRARIES

Python

ABC, Dash, DataClass, Django, Flask, Keras, Ktrain, Numpy/Pandas, Parsimonious, PyTorch, SkLearn, Spacy, TensorFlow, Typing

Web Development

JQuery, AJAX, Node.js, React.js

WORLD LANGUAGES

Conversational

French

Intermediate

German, Portuguese

Beginner

Hebrew, Turkish, Arabic, Spanish

LEADERSHIP

Director of Development

Guidance Analytics

I lead the software development team, established best practices, ran meetings, and made sure we were on track for deliverable deadlines.

Project Owner

Software Design and Development class project

I lead a small team of developers taking a project from concept to beta release over the course of a semester. This included Sprint planning and review, compiling deliverables, and enforcing target deadlines.

Research Team Lead

Critical CS

I lead the homework development team for the Critical Computer Science pedagogical research project. This involved managing a large group of researchers, reading papers, extrapolating ethical concepts, and developing real world problems to model those concepts. Our team had to meet very tight and strict deadlines for deliverables on this project.

EXTRA-CURRICULAR

- Rensselaer Orchestra (Spring '19-Spring '21): Percussion line
- Graduate Advisor, President, Vice President for Capoeira RPI (from Spring '19): Running classes and organizing events
- Gap Year (2017-2018): International travel and cultural immersion in Europe and Africa
- Assistant Coach at Parkour Visions (2014-2017): Assisting coaches in parkour classes for students of various age, race, nationality, identity, sexuality, and mental health