

# ETHAN JOSEPH

## CONTACT



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## EDUCATION

### Rensselaer Polytechnic Institute

B.S. in Computer Science

GPA: 3.88 / 4.00

Expected: Spring 2022

Relevant Coursework:

- Data Analytics
- Projects in Machine Learning & AI
- Learning and Advanced Game AI
- Cognitive Computing
- Undergraduate Research

## AWARDS

Eagle Scout

Rensselaer Leadership Award

Dean's Honor List, all semesters

## SKILLS

Languages:

Python, C++, C, TypeScript, Dart,  
HTML/CSS/SASS, R, Haskell

Tools:

Git, Google Cloud, AWS, SageMaker  
Docker, Firebase, Conda

Libraries and Frameworks:

PyTorch, Tensorflow, Pandas,  
Scikit-Learn, Matplotlib, Flutter

## ACTIVITIES

RPI Rock Climbing Wall Leader,

RPI Tennis Club

RCOS Mentor

## EXPERIENCE

### Data Analytics @ Rensselaer Polytechnic Institute & NASA

Jan 2021 — August 2021

- Developed NLP web-scraper to extract vector-borne disease data from ProMED-mail in collaboration with researchers from NASA Goddard.
- Analyzed data using machine learning methods, authored paper in submission to IEEE Big Data conference.

### RL and NLP Research @ Rensselaer Polytechnic Institute

Jan 2020 — Present

- Working with Dr. Mei Si to research Natural Language Processing and Reinforcement Learning.
- Co-authored research paper on tabular data-to-text generation using transformer neural networks, accepted for publication in IJCOL journal.
- Currently developing a multi-task reinforcement learning agent architecture with “emotionally” guided behavior.

### Project Lead @ Rensselaer Center for Open Source

Jan 2020 — Present

- Founder and project manager for **smartrider**: the all-in-one RPI transportation app for iOS, Android, and web built with Flutter.
- Led team of over 15 developers from zero mobile dev experience to working beta in 4 semesters.
- Currently leading team to launch by Fall 2021.

### Systems Research, Developer @ Carnegie Mellon SEI

Jun 2020 — Present

- Working with Dr. Amit Vasudevan to develop the next-gen uberSpark toolkit for compositional verification of commodity system software.
- Converted open-source firmwares (TF-A/OpenSBI) to use uberSpark.

### Developer @ Skywind & Skyblivion Mod Project

Jun 2020 — Present

- Joined team of over 100 developers trying to port Bethesda's video game Morrowind and Oblivion into the Skyrim Engine.
- In charge of spell crafting system, involves C++ reverse-engineering and Flash/Actionscript UI development.

### Face Detection Research @ Deep North AI

Jun 2018 — Aug 2018

- Helped research and develop facial detection model that scored in the top 3 globally for the WIDER Face Challenge 2018

## PROJECTS

### fakeBlock, Fake News Blocking Browser Extension

2021

Developed an “adblocker” for fake news using typescript and tensorflow.js as part of an agile development team. Uses a transformer neural network trained to classify millions of real and misleading/fake news articles.

### FutureMAG, AI Generated Online Publication

2019

Used a gpt-2 neural network finetuned on articles scraped from various online publications to create a fully automated publication on medium.com/futureMAG

### Alphastone, Hearthstone Reinforcement Learning AI

2018

Adapted DeepMind's AlphaZero algorithm to train an AI to play the card game Hearthstone from no prior knowledge of the game.