

# ETHAN JOSEPH

Computer science student with leadership and AI research experience seeking a data and machine learning/AI internship for Spring 2022.

## CONTACT



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## EDUCATION

### Rensselaer Polytechnic Institute

B.S. in Computer Science

GPA: 3.87 / 4.00

Expected: Spring 2022

Relevant Coursework:

- Intro to Algorithms
- Data Analytics
- 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, ActionScript

Tools:

Git, Google Cloud, Docker, Firebase  
Webpack

Libraries and Frameworks:

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

## ACTIVITIES

RPI Rock Climbing Wall Leader,

RPI Tennis Club

RCOS Mentor

## EXPERIENCE

### 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, awaiting publication.
- Currently working on using NLP and RL to generate fully tailorable video games, including dialogue agents and a cohesive storyline.

### 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.
- Also porting the uber extensible microhypervisor framework (uxmhf) to use the next-gen toolkit, involves development in C and some ARM.
- Co-authoring research paper on using the uberSpark framework.

### 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 Spellmaking system, involves C++ reverse-engineering and Flash/Actionscript UI development.

### Face Detection Research @ Deep North AI

Jun 2018 — Aug 2018

- Worked with researcher to develop, train, and evaluate face detection models using the WIDER Face Dataset of almost 400,000 unique faces.
- Helped develop 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.