# Education

### **New York University**

**MS in Computer Science** 

#### **Rensselaer Polytechnic Institute**

**BS in Computer Science** 

• Awards: Dean's Honor List Fall 2019 & 2020, Spring 2021

## **Publications**

### **Peer-Reviewed Workshop Papers**

Reading StackOverflow Encourages Cheating: Adding Question Text Improves Extractive Code Generation Gabriel Orlanski, Alex Gittens, Proceedings of the 1st Workshop on Natural Language Processing for Programming, 2021

Gabriel **Orlanski** 

## **Preprints**

Evaluating Prompts Across Multiple Choice Tasks In a Zero-Shot Setting Gabriel Orlanski, ArXiv, 2022

Evaluating How Fine-tuning on Bimodal Data Effects Code Generation Gabriel Orlanski, Seonhye Yang, Michael Healy, ArXiv, 2022

# **Experience**

### **Research Intern**

X, The Moonshot Factory/Google Labs- Host: Michele Catasta & Rishabh Singh

- · Researching how to evaluate code language models in low-resource programming languages.
- Built a framework for evaluating artificial intelligence models in any programming language.
- Led a research project with over 10 collaborators.
- Implemented training data algorithm that improved low-resource language performance by over 82%.

### **Graduate Research Assistant**

New York University - Advisor: He He

- Researched the effects of training language models on mixtures of natural and programming languages.
- Built an end-to-end framework to allow fine-tuning language models on over 30B tokens.
- Found that fine-tuning code language models on online help forums improved performance by over 54%.
- Performed ablations that revealed that only training on the code from these forums performance further by 5% on average.

### **NLP Research Intern**

Merlin Labs

- Researched how to generate semantic instructions from Air Traffic Control transcripts with neural semantic parsing models.
- Built a transformer sequence to sequence model that attained nearly 4x better performance compared to the baseline.
- Found improvements of over 14% with a novel method to incorporate context from prior conversation utterances.
- Designed a hierarchical representation for the instructions that improved overall accuracy by over 70%.
- Implemented a pipeline to track over 1,200 experiments and manage version control for over 150 models.

## **Undergraduate Research Assistant**

Rensselaer Polytechnic Institute - Advisor: Alex Gittens

- Researched how to improve code generation techniques for answering StackOverflow questions.
- Built a transformer-based model that used question data to generate code, beating the state-of-the-art models by 10%.

## **Undergraduate Research Assistant**

Rensselaer Polytechnic Institute - Advisor: Thomas Shohfi

- Researched the use of sentiment in financial reports and conference calls to detect algorithmic trading of an equity.
- Tripled the amount of usable data for over 25,000 documents by implementing NLP algorithms to extract salient information.

May 2022 - Present Mountain View California

January 2022 - Present

June 2021 - December 2021

January 2021 - May 2021

Troy, New York

New York, New York

New York, New York

New York, New York September 2021 - May 2023

> Troy, New York August 2017 - May 2021

September 2019 - November 2020 Troy, New York

### **Undergraduate Research Assistant**

Rensselaer Polytechnic Institute - Advisor: Heng Ji

- Researched Author Disambiguation for the Association of Computational Linguistics' new anthology.
- Engineered metadata features to improve the model's performance by over 50%.

## **Projects**

### **Zero-Shot Cross Task Prompting**

github.com/gabeorlanski/zero-shot-cross-task

- Analyzed how natural language prompts perform when used with tasks they were not designed for.
- Found that specific attributes in a natural language prompt can improve performance by up to 60%.

### AllenNLP

github.com/allenai/allennlp

• Added new datasets from papers for ease of use in research.

#### **Adversarial Robustness Toolkit**

github.com/Trusted-AI/adversarial-robustness-toolbox

• Implemented a new flickering video classification attack and created demonstrations to test its efficacy.

## **Professional Service**

2022 Co-Organizer, Deep Learning For Code Workshop

## Honors & Awards.

2021 Runner Up - Best Research Design, AllenNLP Hackathon

## Skills\_

Programming Python, PyTorch, Jax, C, C++, Java, Excel VBA, Javascript, Git, MongoDB, Postgres, MySQL
Computer Science Natural Language Processing, Machine Learning, Data Structures, Data Engineering, Software Design

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