

KEVIN LU

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SKILLS

- Frontend:
 - HTML/JS/CSS
 - React/JSS
 - NextJS
 - MUI
- Backend:
 - PHP
 - Flask
 - PostgreSQL
 - MongoDB
 - Heroku
- Data Science:
 - Jupyter
 - SQL
 - Pandas
 - SKLearn
 - Keras/Tensorflow
 - Pytorch
 - HuggingFace
- Other languages:
 - C++
 - Python
 - Bash
 - Latex
 - Mathematica

EDUCATION

University of Waterloo

Bachelors of Computer Sciences (Co-op), 2021-2026

- **99%** major average

ACHIEVEMENTS

- Faculty of Mathematics Entrance Scholarship \$10,000 (2021)
- Qualifier of Canadian Math Olympiad (2020) (top ~50 in Canada)
- USA Computing Olympiad Gold Qualifier (2020)

PAPERS

Retrieve, Caption, Generate: Visual Grounding for Enhancing Commonsense in Text Generation Models

Second Author

[AAAI 2021: Association for the Advancement of Artificial Intelligence \[peer-reviewed\]](#)

Personifications are Cunning: Exploring Approaches For Personification Identification

First Author

[COLING 2022: International Conference on Computational Linguistics \[peer-reviewed\]](#)

WORK HISTORY

Machine Learning Developer Intern

Stratum AI, May 2022 - Sept 2022

- Stratum AI uses ML for mining **resource modelling**
- Worked on major refactors and wrote our integration testing suite using **pytest** to validate the refactors
- Optimized the ML evaluation workflow by over **6x**
- Worked with **conda**, **pytorch**, **pandas**, and **SKLearn**
- Implemented and optimized features in data pipeline such as aggregating and manipulating resource models
- Researched and developed model generation methods

Software Engineer Intern

Unlimited App, Nov 2021 - Mar 2022

- Startup for a freelancing platform for artists in Indonesia
- Helped develop a Next-based web app
- Worked with **Next**, **React**, **AWS**, **Aurora API**, **Flask**

Full-Stack Software Engineer (part-time)

Skinopathy, May 2022 - Now

- Worked on an EMR using **React**, **Typescript**, **Ant Design** and **Go**
- Built a billing management system, consisting of a microservice in **Python** for interacting with the Ministry of Health, using Azure Functions, Blob Storage, and Queues (event-driven architecture)

CODING PROJECTS

PyATE Python package for ATE, 2020-present

- Implemented **five automated term extraction** (ATE) algorithms based on research through **eight papers** using spaCy POS tagging
- Published Python package on pip, attaining **40,000 downloads**
- Trained a **spaCy** model to identify terms to **95% accuracy** in the ACL database using Kaggle's free GPU instances and the tool Sacred, hosting experiments on a **MongoDB** database
- Made a [demo](#) using **React/Flask**

Recycler: CV for classifying recyclables, 2020

- Fine-tuned **Google's Xception CNN** on the Trashnet database, using Keras up to **87% accuracy**, using Kaggle's free GPU instances
- [Demo](#) using **Flask** backend and **Bootstrap** frontend

Research Mode: Chrome Extension for Research Assistance, 2020-present

- Sidebar for easy note-taking conducting research, which syncs notes to a **PostgreSQL** database
- Adds reader mode to web pages and highlights and defines technical terms using **PyATE**
- Several **NLP** features planned such as **text simplification**, auto-generated citations, **summarizations** and **semantic search**
- Uses **React** and **Flask** and which runs on **Heroku**

PUBLICATIONS

Technical Reviewer for "Mastering spaCy", 2021

- Reviewed for a book introducing the NLP Python package **spaCy**
- Verified technical details and tested code

Math Animation: Submission for the Summer of Mathematical Exposition Challenge, 2021

- Animated [video](#) with **Manim**, on a algebraic topology puzzle

INTERESTS

Jazzing on trumpet, Animusic, badminton, pure math, theoretical physics