KEVIN LU

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SKILLS

- Frontend:
  - HTML/JS/CSS
  - React/JSS
  - NextJS
  - MUI
- Data Science:
  - Jupyter
  - SQL
  - Pandas
  - SKLearn
  - Keras/Tensorflow
  - Pytorch
  - HuggingFace
- Backend:
  - PHP
  - Flask
  - PostgreSQL
  - MongoDB
  - Heroku
- 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

Full-Stack SWE | React, Typescript, Ant Design, Go, Azure
Skinopathy, May 2022 - Now
- Worked on an electronic medical record web app
- Built a billing management system, consisting of a microservice for interacting with the Ministry of Health, using Azure Functions, Blob Storage, and Queues (event-driven architecture)

ML Developer Intern | conda, pytorch, pandas, SKLearn
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**
- Implemented and optimized features in data pipeline such as aggregating and manipulating resource models
- Researched and developed model generation methods

Software Engineer Intern | NextJS, AWS, Aurora API, Flask
Unlimited App, Nov 2021 - Mar 2022
- Startup for a freelancing platform for artists in Indonesia
- Helped develop a Next-based web app

PROJECTS

PyATE Python package for ATE, 2020-present
Python, spaCy, React, Flask, MongoDB, NLP research
- 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

Recycler: CV for classifying recyclables, 2020
Python, Kaggle, Keras, CNN, Flask, Bootstrap
- Fine-tuned **Google's XCeption CNN** on the Trashnet database, using Keras up to **87% accuracy**, using Kaggle's free GPU instances

Research Mode: Chrome Extension for Research Assistance, 2020-present
PostgreSQL, Chrome extension, React, Flask, Heroku, NLP
- 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**

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 Challange, 2021
- Animated video with **Manim**, on a algebraic topology puzzle

INTERESTS

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