HARRISON PIELKE-LOMBARDO

Software Developer

@ pielkekid@gmail.com   📞 720 209 6249   📍 Denver, CO   🐙 https://www.github.com/tuh8888   💼 https://www.linkedin.com/in/tuh8888

EXPERIENCE

Senior Software Engineer
Peruse Technology Inc (SOLD)

🗓 Sep 2022 - Current
📍 Remote

- Saw through the development of a product and platform which grew revenue while on-boarding new clients which allowed us to achieve a successful exit.
- Implemented many critical features of a high-volume logistics document processing platform including automatic broker verification, automatic and manual document assignment, custom rules engine, as well as the overall load processing pipeline used by both UI and API customers as well as technical challenges such as a database migration from `Datomic` to `Postgres`.
- Full stack development spanning from backend `REST` and `GraphQL` APIs written in `Clojure` and `Python`, frontend `Typescript` UI components, and cloud-based infrastructure maintained using `terraform` and deployed to `AWS` while also maintaining and deploying LLM-based machine learning models trained using `PyTorch`.

Computational Biologist
University of Colorado, Anschutz Medical Campus

🗓 Aug 2016 – Aug 2022
📍 Aurora, CO

- Managed interconnected computational projects written in `Python`, `Java`, and `Clojure` across 4+ teams through consistent communication and leadership and produced 6 publications, 4 dataset releases, and 5 package releases.

PROJECTS

Schematization of biological mechanisms from structural, semantic, and causal properties 🗓 2017 – 2022

- Conceptualized and tested algorithmic approaches in `Clojure` and `Python` for extending analogical reasoning of complex networks representing biological knowledge. Merged and harmonized large biomedical knowledge graphs represented in `RDF`, `Datomic`, and `SQL` formats.

Knowtator: Concept/relation annotation for Protégé 🗓 2016–2022

- Deployed a WYSIWYG `Java` plugin for ontology development and text annotation that includes interactive graph visualization for textual features. It was used to annotate over 100k concept and relation annotations. Later became a `Clojurescript` `web application`. `CI/CD`: Incorporated user feedback in several feature updates.

Bootstrapped relation extraction using word embeddings and dependency paths 🗓 2016–2019

- Automated relation extraction by implementing a novel bootstrapping approach in `Clojure` that creates human-interpretable syntax patterns from dependency paths and word embeddings. Performance optimized with GPU accelerated matrix operations. Improved precision for relation extraction for drug-targets from biomedical texts by 10%.

PRESENTATIONS

IDEAL Invited Speaker
The Institute for Data, Econometrics, Algorithms, and Learning

🗓 June 2024
📍 Chicago, IL

- Title: AI in the Transportation Sector: Challenges and Successes

EDUCATION

Master of Science in Computational Bioscience
University of Colorado, Anschutz Medical Campus

🗓 2016 − 2022
📍 Aurora, CO

Bachelor of Science in Applied Mathematics
University of Colorado

🗓 2013 – 2016
📍 Boulder, CO

- Minor in Computer Science
- Minor in Biochemistry