Harrison Pielke-Lombardo

AI/NLP Software Engineer in Python/Java/Clojure
Denver, CO 80206
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I am a Computational Bioscience graduate interested in developing software for artificial intelligence, health infor- matics, and game development. My work includes develop- ing novel algorithms for symbolic AI and natural language processing. As a polyglot programmer, I enjoy turning diffi- cult problems for people into easy solutions for computers.”

Authorized to work in the US for any employer

Work Experience

Computational Biologist

University of Colorado, Anschutz Medical Campus - Aurora, CO
August 2016 to August 2022

• Thesis title: Schematization of biological mechanisms using net- work alignment and computational analogy for hypothesizing about disease mechanisms and their interventions.
• Managed multiple, interconnected computational projects across different teams from planning to publication.
• Communicated with technical and non-technical audiences.
• Developed interpretable, symbolic artificial intelligence and machine learning methods for identifying drug-targets in text and performing inductive reasoning about drug-disease mechanisms.
• Maintained sustainable, open software development practices.

IEEE Undergraduate Research Fellow

University of Colorado - Boulder, CO
August 2015 to May 2016

Analyzed CRISPR-Cas9 binding sites by developing a mathematical model of possible binding regions. The model used Aho-Corrasick automata and Markov embedding to make statistical inferences about sites in human DNA where CRISPR-Cas9 could make edits. MATLAB was used to implement the model computational and perform statistical analysis.

Cancer Center Research Fellow

University of Colorado Denver I Anschutz - Aurora, CO
June 2015 to August 2015

Implemented a computational method for profiling kinases in three cancer subtypes.

Education

MS in Biomedical Sciences and Biotechnology

University of Colorado - Aurora, CO
August 2016 to August 2022

BS in Applied Mathematics
University of Colorado - Boulder, CO
August 2013 to August 2016

Skills

- Clojure (6 years)
- Python (10+ years)
- APIs
- C/C++
- REST
- Java (10+ years)
- JavaScript (6 years)
- Pandas (7 years)
- NumPy (7 years)
- R (7 years)
- Docker (7 years)
- Virtualization (7 years)
- Git (7 years)
- GitHub (7 years)
- User Interface (UI)
- XML
- SQL (3 years)
- Jupyter (8 years)
- AI (7 years)
- Machine learning (7 years)
- Natural language processing (7 years)
- CI/CD (3 years)
- Kubernetes (1 year)
- Big data (7 years)
- HTML5 (6 years)
- CSS (6 years)
- D3.js (6 years)
- Data visualization (7 years)
- Databases (6 years)
- SPARQL (6 years)
- AWS (2 years)
- Bash (7 years)
- Linux (7 years)
- Statistics (7 years)

- Semantic Web (6 years)
- RDF (6 years)
- Unit testing (7 years)
- Molecular biology (7 years)
- MySQL
- React (4 years)
- Data modeling (6 years)
- Data mining (8 years)
- Web development (4 years)
- OWL (6 years)
- Node.js
- Communication skills
- Data structures
- Software development
- GraphQL
- AWS
- Full-stack development
- DevOps
- Technology

Languages

- English - Fluent
- Spanish - Intermediate
- Italian - Beginner

Links

https://www.github.com/tuh8888

https://www.linkedin.com/in/tuh8888

Awards

Stipend for graduate study at University of Colorado, Anschutz Medical Campus

August 2013

$40,000/year

Groups

International Society for Computation Biology
August 2013 to August 2022

Publications

GSEA-InContext: identifying novel and common patterns in expression experiments
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6022535/#!po=53.1250
July 2018

Knowledge-based biomedical data science
https://scholar.google.com/citations?view_op=view_citation&hl=en&user=C0q730UAAAAJ&citation_for_view=C0q730UAAAAJ:2osOgNQ5qMEC
March 2020

Craft shared tasks 2019 overview—integrated structure, semantics, and coreference
https://scholar.google.com/citations?view_op=view_citation&hl=en&user=C0q730UAAAAJ&citation_for_view=C0q730UAAAAJ:IjCSPb-OGe4C
2019

Pre-analytic considerations for mass spectrometry-based untargeted metabolomics data
https://scholar.google.com/citations?view_op=view_citation&hl=en&user=C0q730UAAAAJ&citation_for_view=C0q730UAAAAJ:UeHWp8X0CEIC
2019

Proceedings of The 5th Workshop on BioNLP Open Shared Tasks
https://scholar.google.com/citations?view_op=view_citation&hl=en&user=C0q730UAAAAJ&citation_for_view=C0q730UAAAAJ:zYLM7Y9cAGgC
2019