Xiao Wang

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EMPLOYMENT

Research Software Engineer — May 2021 – Present
Quartic.ai Inc. Toronto, Canada

- Delivered internal and external artificial intelligence products for manufacturing.
- Led frontend development planning. Owned frontend tasks throughout the full software development life cycle, including requirements, design, development, final integration, testing, maintenance of new features and capabilities. (React, React-Router, Redux, Bootstrap, MaterialUI, AntDesign) Experienced in backend tasks with Django. Worked in an agile environment. Participated in code reviews.
- Investigated on autonomous control of bioreactors and optimization of batch and continuous process in manufacturing.
- Investigated methods to build decentralized applications on Solana blockchain. Developed a decentralized gambling application on Solana Devnet via Web3.js which integrated Wallet-adapters (e.g., Phantom) enabling customized token transaction and token swap.

Freelance Full-Stack Developer — Nov 2020 – Feb 2021
Molson Flooring Inc. Markham, Canada

- Prototyped responsive front-end theme with content marketing using Figma. Developed responsive front-end website with HTML, CSS and Implemented on top of WordPress. Client project URL: https://molsonflooring.com/.

Wild Crane Tattoos Inc. Markham, Canada

- Developed responsive front-end website with HTML, CSS, JavaScript, Bootstrap using the Django. Deployed Django Project to Heroku platform. Client project URL: https://www.wildcranetattoos.com/.

Research Intern — Jan 2020 – Oct 2020
Omics Data Automation Inc. Portland, USA

- Deep learning-based analysis on histopathology images of lung cancer. Replicated the supervised learning tasks of cancer type classification and gene mutation status prediction on pathology image.
- Preprocessed more than five hundred digital whole-slides pathology image using OpenCV. Performed inference and transfer learning on TCGA pre-trained GoogLet-Inception V3 CNN. Improved performance from AUC less than 0.5 to 0.74 by transfer learning.
- Adapted pre-trained InceptionResNetV2 models from Keras and developed Python scripts for transfer learning.

Graduate Teaching Assistant — Mar 2020 – Jun 2020
Oregon Health & Science University Portland, USA

- CS/EE 559/659 Machine Learning.

Research Intern — Sep 2017 – Apr 2018
Ontario Institute for Cancer Research Toronto, Canada

- Investigated the gene regulatory networks of long non-coding RNAs (lncRNAs) in multiple cancer types. Analyzed RNA-Seq dataset from two databases, Pan-Cancer Analysis of Whole Genomes (PCAWG) and The Cancer Genome Atlas (TCGA).
- Identified potential target genes that are statistically significantly correlated with the lncRNA in the tumor type. Used rank aggregation technique in R (RobustRankAggreg package) to find target genes of lncRNA that are consistent in multiple tumor types. Completed pathway enrichment analysis using the gProfileR package in R. Created enrichment maps with Cytoscape that represent resulting pathways as easily interpretable network diagrams.

Research Intern — May 2017 – Aug 2017
University of Toronto Toronto, Canada

- Analyzed the quantitative traits for selection in intrinsically disordered proteins/regions (IDP/IDR) with phylogenic comparative method and computational simulations.
- Obtained protein sequences from Ensembl database with Python scripts through RESTful API. Aligned Multi-species sequences with MUSCLE (Multiple Sequence Comparison by Log-Expectation). Depicted the Alignments visualization using Jalview. Obtained the coordinates of disordered regions predicted by DISOPRED3.

EDUCATION

Master of Science in Bioinformatics and Computational Biomedicine — Sep 2018 – Jun 2020
Oregon Health & Science University Portland, USA

Honors Bachelor of Science in Bioinformatics and Computational Biology — Sep 2014 – Jun 2018
University of Toronto Toronto, Canada

SKILLS

Python, JavaScript, HTML, CSS, R, C, React, Django, Gatsby, PostgreSQL, SQL Server, NonSQL, PyTorch, TensorFlow, OpenCV, NumPy, pandas.

PUBLICATION

- Yi Hu, Zhaozhen Wu, Haitao Tao, Sujie Zhang, Xiao Wang, et al. Efficacy and safety of anti-PD-1-based therapy in combination with PARP inhibitors for patients with advanced solid tumors in a real-world setting. Cancer Immunol Immunother. 2021 Oct;70(10):2