IAN SNYDER

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EDUCATION

Pittsburgh, PA **University of Pittsburgh** **Aug 2019- April 2023**

Major | Computational Biology , B.S **GPA:** 3.35
Minor | Applied Statistics
Programming Coursework: Advanced Algorithms, Data Structures, Data Science, Machine Learning Modeling
Statistics Coursework: Linear Regression, Nonparametric Statistics, Categorical Data Analysis, Discrete Mathematics

TECHNICAL SKILLS

Languages: Python, Java, Javascript, R, C, C++, BASH/Shell Scripting
Database/Cloud: MySQL, PostgreSQL, SQLite3, SQLAlcehmy, Neo4j Cypher, AWS: Elastic Beanstalk, EC2
Developer Frameworks: Django, React/Node.js , Kubernetes, REST API
Developer Tools: Git, Jupyter Notebook, Visual Studio Code/Online
Machine Learning: PyTorch, Tensorflow, Keras, Scikit-Learn, Pandas, NumPy, XGBoost

EXPERIENCE & PROJECTS

Machine Learning Researcher | Carnegie Mellon-UPMC De Novo Drug Design Dec 2019 - Sep 2020

Department of Computational & Systems Biology, Koes Group Directed Research **Python | R | Tensorflow**

- Employed Tensorflow and GNINA open-source frameworks to develop advanced deep learning structure-based drug design techniques, resulting in the fine-tuning and optimization of state-of-the-art convolutional neural network models for accurately predicting low RMSD poses
- Conducted comprehensive research to validate the superior efficacy of deep learning models by strategically training an ensemble of models, demonstrating a scalable performance boost with up to ~20 models
- **Publication:** "Three-Dimensional Convolutional Neural Networks and a Cross-Docked Data Set for Structure-Based Drug Design," Journal of Chemical Information and Modeling, 2020

Personal Project | Portfolio Website

Django Restful React framework **React | Django | REST |AWS**

- Designed and implemented a comprehensive personal portfolio website, showcasing my unique skill set and highlighting a diverse array of accomplished projects
- Leveraged the powerful Django restful open-source framework in Python to build the website from the ground up, integrating React to create a visually striking and feature-rich frontend for improved user experience
- Optimized for scalability and performance by deploying the backend on AWS EC2, utilizing Elastic IP for seamless hosting and a robust online presence
- **Website**: iansnyder333.github.io/frontend/

Personal Project | Snake Game Intelligent Agent Python | PyTorch | PyGame

- Engineered an advanced Snake Game Application utilizing Pygame, featuring a sophisticated Intelligent Agent powered by Deep Q-Learning through the PyTorch framework
- Crafted an engaging and interactive experience for users, offering multiple difficulty levels, AI gameplay demonstrations, and the opportunity to train and visualize their own models, enhancing user engagement and understanding
- Seamlessly integrated the application's full suite of features within an intuitive, custom-built GUI, ensuring effortless accessibility and an exceptional user experience for clients
- **Source Code**: github.com/iansnyder333/ai-game

CERTIFICATIONS

AWS Certified Cloud Practitioner | Amazon Web Services AWS