NADINE PIGIDA

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EXPERIENCE

COMPUTATIONAL BIOLOGY RESEARCH STUDENT

SICKKIDS HOSPITAL • SEPT 2023 – AUG 2024

- Used explainable AI methods (SHAP) to uncover relevant genes in ensemble CNN trained to classify pediatric cancers
- Trained XGBoost models on RNA-seq data to extract these gene-level explanations
- Explored the use of CycleGANs in generating normal samples to pair with tumor samples for input into bioinformatics tools
- Worked on a high-performance computing cluster and utilized Slurm effectively for testing and running tools in whole genome analysis pipeline
- Optimized the structural variant subworkflow of the pipeline using WDL, and implemented a 'tumor sample only' mode, reducing runtime by ~24h

SOFTWARE ENGINEER

GALT HEALTH • MAY – AUG 2022, JAN – APRIL 2023

- Designed and developed a Python application to automate prescription refills, reducing the time taken to refill a prescription by **50%**
- Used AWS to create and train a custom ML model for extracting relevant data from scanned prescriptions
- Transformed the local application into a production-level system, using AWS (Lambda and DocumentDB) for scalability and reliability
- Designed and developed a second Python application to automate billing processes for family doctors
- Implemented algorithms and calculations to estimate potential savings for doctors based on their billing and patient care history, resulting in significant cost savings

SOFTWARE DEVELOPER

CULTUREALLY • SEPT 2021 – DEC 2021

- Investigated and resolved bugs impacting various frontend and backend tasks
- Wrote SQL queries to report live per-account engagement metrics to admin users
- Designed new UI/UX for delivering employee training modules through the web app

SKILLS

- **Languages:** Python, SQL, C/C++, WDL, Kotlin, HTML, CSS, JavaScript, Bash
- **Technologies:** AWS (Lambda, Sagemaker, Comprehend, S3, DocumentDB, DynamoDB), Git/GitHub, HPC/Slurm, Googl Firebase, Linux, Docker

PROJECTS

KINDKART

- Chrome extension built using **HTML**, **CSS**, **JavaScript**, and **Google Firebase** to help users make sustainable purchases online
- **1st** place in Industry category, SEThacks hackathon

CAPUCHIN BIRD CALL RECOGNIZER

- Developing a bird call recognition system using Python, TensorFlow, and a convolutional neural network (CNN) to accurately detect and count the number of Capuchin bird calls in an audio clip
- Trained the CNN on a dataset of labeled bird calls, achieving an accuracy of 98% on a held-out test set
- Planning to try other methods such as using MFCCs and Support Vector Machines and compare the accuracy of different models

EDUCATION

Bachelor of Computer Science 88% GPA
UNIVERSITY OF WATERLOO • APRIL 2025

Master of Science in Bioinformatics
LUND UNIVERSITY • EXPECTED APRIL 2027