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Summary

As a dedicated professional with a solid academic background and practical experience in genetics and molecular biology, I am on the path to completing my Master's in Data Science, with a focus on Computational Biology and Bioinformatics, anticipated to graduate magna cum laude in August 2024. My academic journey has been marked by a deep engagement and exceptional performance across a wide range of subjects, such as Statistical Programming, Data Mining, Multivariate Data Analysis, Data Visualization, Data Storage Systems, and both Supervised and Unsupervised Machine Learning.

This diverse and comprehensive skill set, augmented by my hands-on laboratory experience across various scientific disciplines, uniquely qualifies me for advanced roles in Bioinformatics, Data Science, and Machine Learning. My academic accomplishments and practical experiences reflect my unwavering commitment to contributing significantly to these dynamic fields. Through a blend of rigorous education and real-world application, I have honed my abilities to analyze complex datasets, derive insightful conclusions, and apply these findings to drive research and innovation forward.

Experience

Machine Learning Engineer Intern

LiveiTech, LLC

Apr 2023 - Current

In my role as a Machine Learning Engineer Intern at LiveiTech, I am dedicated to pioneering innovative solutions in the realm of security and network systems. Leveraging my expertise in machine learning and data analysis, I spearhead projects aimed at fortifying digital infrastructures against cyber threats and detecting anomalies in network operations.

My responsibilities encompass the development of advanced algorithms and systems for network intrusion detection and anomaly detection in system logs. Through collaborative efforts, I conceptualize and implement machine learning models, including Random Forest, Support Vector Machines (SVM), and Convolutional Neural Networks (CNNs), to discern normal network activity from potential security breaches. These endeavors are supplemented by real-time visualization tools and notification systems, enabling swift responses to emergent threats.

Molecular Technologist

GenoSUR

Feb 2021 - Jul 2022

As an accomplished Molecular Technologist, I possess a profound expertise in executing high-throughput COVID-19 diagnostics utilizing qRT-PCR within the rigorous confines of a CLIA-certified laboratory environment. My proficiency extends to a comprehensive array of molecular techniques, including nuanced nucleic acid extraction and the intricate processes of real-time reverse transcription polymerase chain reaction (qRT-PCR), underscored by a steadfast adherence to molecular testing protocols.

Research Associate

University of Miami Miller School of Medicine

Jan 2019 - Mar 2021

In my capacity as the Lead Genotyper within the Genotyping Division, I was instrumental in steering and executing advanced genotyping procedures, leveraging state-of-the-art Illumina products and technologies. My expertise was particularly focused on adhering to the Infinium Protocols on Illumina beadchips, ensuring that every step of the process was conducted with the highest standards of precision and accuracy. My role encompassed conducting meticulous quality control assessments utilizing a suite of techniques including Nanodrop, Qubit, agarose gel electrophoresis, and Tapestation. This rigorous approach to quality control was critical in safeguarding the integrity and reliability of our genotyping data. Utilizing GenomeStudio software, I delved into detailed analyses, performing accurate calculations and extracting insightful findings that enhanced our understanding of genotyping calls.

Research Associate

University of Miami Miller School of Medicine

Mar 2017 - Jan 2019

In my role as a Virology Researcher, I excelled in the management and cultivation of a wide array of cell cultures, including Macrophages, iPSCs, and hematopoietic progenitors, showcasing my adeptness in the differentiation of Microglia cells from iPSCs. My expertise extended to handling high-profile viruses such as HIV and ZIKA, which involved the creation of viral stocks and the execution of sophisticated infection assays. My technical acumen was further demonstrated through the successful conduct of advanced immunohistochemical assays, flow cytometry, ELISA assays, and detailed microscopy studies. I was proficient in DNA and RNA extraction, purification, and quantification processes, and I skillfully applied various PCR techniques and gel electrophoresis to my research endeavors. My capabilities also spanned the generation of recombinant viruses and the transfection of plasmids, alongside viral titer quantification using reverse transcriptase activity assays.

Education

University of Florida

Bachelor of Science (B.S.), Genetics, 2015

Lewis University

Master of Science (M.S.), Data Science with concentration in Bioinformatics and Computational Biology

Magna Cum Laude Honors - Graduation August 2024

Technical Skills & Expertise

Programming & Scripting:

Languages: Python, R, SQL, SAS, C/C++, MATLAB, Java

Libraries: NumPy, Pandas, SciPy, Matplotlib, Seaborn, Biopython, TensorFlow, PyTorch, Bioconductor, Plotly, Beautiful Soup

Concepts: ObjectOriented Programming (OOP) principles and implementations across languages to promote modularity, reusability, and flexibility in code development.

Development Environments: Jupyter Notebooks, PyCharm

Data Science & Machine Learning:

Core Areas: Machine Learning (ML), Artificial Intelligence (AI), Informatics, Pattern Recognition, Data Analysis, Predictive Modeling, Natural Language Processing (NLP), Reinforcement Learning, Neural Networks, Deep Learning

Techniques: Feature Engineering, Model Training & Evaluation, Computer Vision, Natural Language Processing (NLP), Statistical Analysis & Modeling, Principal Component Analysis (PCA), Linear Discriminant Analysis (LDA), k-means Clustering, Hierarchical Clustering, Anomaly Detection, Time Series Analysis, Survival Analysis, Ensemble Methods (including Random Forests)

Libraries/Tools: ScikitLearn, TensorFlow, Keras, PyTorch, FastAI, Tkinter

Data Management & Visualization:

Data Management: SQL, Hadoop, Data Mining, Cloud Computing Platforms (AWS, Google Cloud), Version Control (Git, GitHub)

Data Visualization: Tools and Libraries (Matplotlib, Seaborn, Tableau, Power BI, Plotly)

Bioinformatics:

Techniques & Technologies: Sequence Analysis, Gene Expression Analysis, Protein Structure Prediction, NGS Analysis (alignment, variant calling), Comparative Genomics

Tools: GenomeStudio, BLAST, BWA, Bowtie, SAMtools, UCSC Genome Browser, Ensembl, Docker

Business Intelligence & Analytics:

Focus Areas: Analytics, Business Intelligence, Predictive Analytics, Computer Science, Microsoft Office

Laboratory Techniques:

Techniques: Molecular Biology, PCR, qRT-PCR, Human Genomics, Genetics, Genotyping, Illumina, Microarray, Next Generation Sequencing (NGS), Cell Culture, Virology, iPSCs, Macrophage/Microglia, Immunohistochemistry, Immunoassays, ELISA, Flow Cytometry, DNA/RNA Isolation, QC, Microscopy, Laboratory Management

Non-Technical Skills

Collaboration: Effective teamwork and clear communication within diverse groups

Problem Solving: Creative and logical approach to overcoming challenges

Analytical Thinking: Ability to parse complex data sets and extract actionable insights

Effective Communication: Articulate complex technical and nontechnical concepts to a variety of audiences

Organizational Skills: Efficient management of tasks, resources, and time

Critical Thinking: Evaluate information logically to make reasoned decisions

Business Acumen: Understand business operations and contribute to strategic decisions

Attention to Detail: Meticulous approach to work, ensuring accuracy and minimizing errors

Strategic Thinking: Plan and align daytoday tasks with broader business goals

Adaptability: Flexibility in handling changes and challenges in various situations

Teamwork: Demonstrated experience working collaboratively within cross functional teams.

Time Management: Capable of juggling multiple projects, meeting tight deadlines, and prioritizing tasks efficiently.

Continual Learning: Literature Research, OpenAI/ChatGPT, Hugging Face, Udemy, edX, Coursera, GitHub, Stack Overflow, Reddit, DeepMind