Hayley Zorkic

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EDUCATION

The University of Texas at Austin (UT) | Fall 2021

Major: Bachelor of Science in Computational Biology | GPA**:** 3.73

Minors: Computer Science, Biotechnology

Relevant Coursework: Python, Data Structures and Algorithms, Data Science, Visualization, Linear Algebra, Databases, Statistics, Quality Assurance, Biomanufacturing, Bioinformatics, Medical Device Design, Entrepreneurship Practicum

EXPERIENCE

Computational Scientist | Genentech | 05/ 2021 - 08/2021

- Developed R Shiny web applications to investigate cell communication in tumor microenvironments
- Successfully combined 5 tools and 13 databases into a standardized and streamlined pipeline, drastically simplifying the user experience
- Re-developed a data analysis pipeline with Python to quantify antibodies used for immunotherapy, increasing speed and efficiency by over 100%
- Worked with international collaborators to develop a standardized pipeline and workflow

ML Research Scientist | **The Marcotte Lab** | 05/2021 - Present

- Developing a tool that uses Convolutional Neural Networks to Identify all proteins in samples using Images and Mass Spectrometry data, eliminating the need for time-intensive, manual identification of proteins in samples
- Establishing a laboratory-standard workflow to run AlphaFold2 jobs in High Performance Computing Environments

Design and Fabrication Lead, Data Scientist, Software Developer | Texas Inventionworks | 01/2019 - Present

- Developing data analysis dashboards for operational decision making using AWS and python.
- Overseeing the front-end team in the development of our customer facing service website. built using GraphQL, React.js, NoSQL, AWS cloud.
- Coordinated the training of hundreds of students and faculty for our advanced manufacturing equipment.
- Collaborates with a cross-functional team of Scientists and Engineers to develop a microscope attachment for immunological imaging in mice.

Product Developer | UT Inventors Program | 01/2019 - 12/2019

- Engineered a low-cost, easy to use diagnostic device to run assays and map outbreaks remotely using rapid prototyping
- Managed a multidisciplinary team to perform market and end-user research, design, development, and market strategy planning for a product that meets an unmet diagnostic need
- Developed rapid diagnostic assays to identify Malaria, TB, and Tick Borne Illnesses in less than 30 minutes

LAB WORK

Synthetic Biology Research Scientist | The Ellington Lab | 01/2020 - 05/2021

- Genetically engineered Retron-CRISPR chimeras for applications in clinical gene editing.

Bioinformatics and Synthetic Biology Research Scientist | The Finkelstein Lab | 01/2020 - 05/2021

- Developed an Exploratory Data Analysis pipeline to analyze 1+ million SARS-CoV-2 (COVID) patient protein sequences to find mutational patterns.
- Engineered easy-to-use software tool for the execution of high-throughput creation of synthetic DNA libraries

Gene Therapy Research Scientist | Minicircle Inc. | 08/2019 - 01/2020

- Aided in the development of a minicircle based platform for affordable antibody and protein gene therapies.
- Taught entry-level interns basic laboratory skills such as buffer preparation, sterile technique, and cell culturing.

SKILLS

Soft Skills: Team Leadership, Product Management, Organizational Structuring, Entrepreneurship, Innovation

Programming Skills: *Python, SQL, R, Bash, CSS, HTML, AWS, GCP*

Data Science Skills: *Data Wrangling (pandas, dplyr) , Data Visualization (matplotlib, seaborn, ggplot), Machine Learning: Classification and Regression using Supervised and Unsupervised techniques (scikit-learn, keras, tensorflow), HPC*

Engineering Skills: *3D Printing, Laser Cutting, CNC Milling, Circuit Board Design, 3D Modeling (Fusion 360, Solidworks), Arduino/RaspberryPi, Rapid Prototyping*

ACTIVITIES & LEADERSHIP

- D.E. Shaw Research Science and Engineering Undergraduate Fellowship - Computational Biochemistry
- Dell Medical School Medical Device Design Practicum
- Science Sprints, Inventors Sprints Participant and Consultant
- Precious Plastic Texas, Chapter Co-Founder and President
- IEEE Robotics and Automation Society 2018 Robotathon Champion, Computer Aided Design Specialist

SCHOLARSHIPS

- Howard Huges Medical Institute Research Fellow
- Houston Livestock Show and Rodeo Metropolitan Scholar
- Houston Livestock Show and Rodeo Achievement Scholar
- Texas Association for Education and Rehabilitation of the Blind and Visually Impaired Student of the Year
- Lois Ford La Bauve Scholarship
- Texas Advance Scholarship
- Zac Jones Foundation Scholarship