Rishabh Pandey

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SUMMARY

Elevating Bioinformatics with Data Science and Software Engineering: Co-op Search for Spring 2024 (January-June).

EDUCATION

Northeastern University, Boston, MA Dec 2024 (Expected)
Master of Science in Bioinformatics *GPA: 3.7*
Area of Interest: Data Science/Data Analytics/DevOps/Software

Ramaiah University of Applied Sciences, Bangalore, India Aug 2021
Bachelor Of Science Biotechnology (Hons) *GPA: 3.7*

SKILLS

Data Science and ML:	Seaborn, Matplotlib, Sklearn, TensorFlow, Keras, Jupyter, Numpy, Pandas
Computer Science:	Full Stack Dev, Cloud Native Ops, Kubernetes, Linux, Docker, LXC/LXD
Languages:	Python (BINF6200), JavaScript, SQL, C, Bash, R (MATH7340), MATLAB, (S)CSS, HTML5
Bioinformatics Tools:	Trimmomatic, GSNAP, BLAST, SAM tools, Trinity [Courses: (BINF6308/6309)]
Lab Skills:	Biosafety (L2), Gelelectrophoresis, PCR, MTT, Immunological Assays, Tissue culture

EXPERIENCE

Intern – Harvard Medical School – Mass General Hospital, Boston, MA June 2023 – Aug 2023
Developer: - Python

- Developed a script with MD5 hash algorithm for efficient server cleanup and storage optimization
- Spearheaded the integration of LXC/LXD as a container management system to streamline application deployments and ensure resource isolation
- Implemented Rancher, a powerful Kubernetes management platform
- Facilitated multi-cluster deployments, and monitoring, enhancing the overall cluster administration experience

Computational Drug Discovery with Neural Networking using QSAR modelling, Bangalore, India May 2021 – Jul 2021
Full Stack Developer: Python

- Leveraged AI to predict Acetylcholinesterase activity holds immense potential for the treatment of Alzheimer's disease, with the aim to revolutionize the field
- Developed a ChEMBL database-powered web app that predicts the bioactivity of target molecules by applying Deep Neural Network and Quantitative Structure-Activity Relationship (QSAR) modeling
- Harnessed Canonical SMILES notations to calculate Lipinski descriptors, which are critical in evaluating the drug likeness of compounds based on their pharmacokinetic profile, including absorption, distribution, metabolism, and excretion
- GitHub link for the project

CF-CAP (Computational Flu or COVID-19 Anticipator and Prescriber), Raipur/Bangalore, India Oct 2020 – April 2021
Data Scientist, Front End Developer: Python, JavaScript

- Revolutionizing the way we detect and manage the initial symptoms as the first line of defense against COVID-19, CF-CAP
- Leveraged the power of X-ray imaging and Convolutional Neural Network (CNN) models to design a web-app that accurately predicts the presence of COVID-19 in the lungs
- Impressive on-paper accuracy of 90%, our CF-CAP model was trained with over 16,000 image samples using VGG16 architecture and optimized with 50 epoch cycles
- Impact of our work was further highlighted in a national newspaper, "Patrika," where it was featured under the national news section, reinforcing its significance in the fight against COVID-19
- GitHub link for the project, Link for the article

SEMINAR AND WORKSHOPS

Application of computational tools in drug discovery, Bangalore, India July 2019
Seminar

- Learned about Data Visualization and processing data and how ML/AI can be used when it comes to prediction of a drug and drug likeness of a compound