

CURRICULUM VITAE

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SUMMARY

A data science professional at the intersection of natural sciences and technology aspiring to develop AI solutions to further the application of in-silico modeling in accelerating Biopharma R&D

EDUCATION

Indian Institute of Technology, Bombay

[July'14 – July'18]

Bachelor of Technology in Chemical Engineering

TECHNICAL SKILLS

Programming languages	Python, SQL, JavaScript, HTML, CSS, GraphQL, Bash	3 years+
Familiar with	Kubernetes, R, Java, Octave, MATLAB, NWChem	1-3 projects
Tools & OS	Postgres, Neo4j, Docker, Linux, Git, Jupyter, Airflow, VMs	3 years+
Libraries	Tensorflow, Keras, RdKit, ReactJS, Sklearn, Pandas, NumPy	3 years+
Others	Data Science, Machine Learning, Deep Learning, Neural Networks, NLP, RNN	3 years+

EXPERIENCE

Data Scientist, Aganitha Cognitive Solutions, Hyderabad

[Sep'18 – Present]

Drug Solubility Prediction to improve drug developability assessment

- Trained Machine Learning models to classify drug molecules into low, medium, and high solubilities; The models achieved **78%** accuracy and are currently **helping real-world scientists** in saving months of experimentation time and lab expenditures
- Trained deep learning models to predict quantum descriptors of chemical molecules **reducing** its computational cost by **99.9%**
- Designed a standardized database schema that can efficiently store experimental lab results and molecular descriptors
- Managed and **trained a team** of four freshers by writing tutorials, blog posts, quizzes, and collating study materials

Suzuki Reaction Yield Prediction to decrease avoidable experimental expenditure in Biopharma R&D

- Trained Graph Neural Networks to identify low yielding reactions that helped the client in a **30% reduction** of lab expenditure
- Developed a Jupyter notebook-based app that helps scientists in visualizing chemical reactions and molecular structures
- Leveraged NLP techniques to extract and curate a database of chemical reactions from millions of published patents
- Built an **Airflow** based framework to visually monitor the progress of the data pre-processing ETL pipeline in real-time

Research Publication Browser to enable a faster intelligence solution for R&D scientists

- Created a hub that can search the internet and automatically collate relevant research related to any disease
- Built a ReactJS based website with neo4j as the backend that can **efficiently search** millions of research papers in real-time
- Developed a **master data management** pipeline for disambiguating organization names, author names, and their affiliations

Email Request Classification for streamlining customer care operations

- Developed RNN models to classify customer inquiries into 70+ categories **saving six hours/day** spent in manual classification
- Improved customer experience by automatically assigning ticket numbers to their queries and reducing the waiting time from **two days to five minutes**

In-Silico Antibody Engineering to identify the structure of an antibody

- Created a pipeline that can combine both Homology Modelling and deep learning approach to predict the structure of an antibody, a step towards saving months of experimentation in the lab
- Created data analysis programs to identify low and highly viscous monoclonal antibodies

Machine Learning Intern, Eli Research India, Faridabad

[May'17 – July'17]

Chatbot, a QA chatbot to answer common and repetitive queries by customers

- Carried experiments using RNNs and GRUs to provide word prompt when a user starts typing
- Helped the company in reducing the number of customer calls by **10%** by setting up a QA chatbot

RELEVANT COURSES

• Deep Learning Specialization, <i>deeplearning.ai, Coursera</i>	Aug'17 – Feb'18
• Natural Language Processing, <i>Stanford University, YouTube</i>	May'17 – Jun'17
• Machine Learning, <i>Stanford University, Coursera</i>	Mar'17 – Jun'17
• The Data Analytics Edge, <i>MITx Courseware, edX</i>	Jan'17 – Feb'17
• Algorithms, <i>University of California, San Diego, Coursera</i>	Dec'16 – Jan'17
• R Programming, <i>Johns Hopkins University, Coursera</i>	Aug'16 – Sep'16
• Introduction to Computer Science, <i>Harvard, edX</i>	Jul'16 – Nov'16
• Introduction to C++, <i>IIT Bombay, On-Campus</i>	Aug'14 – Nov'14