Jayit Saha

EDUCATION

Vellore Institute of Technology   Bachelor of Technology (SCSE)
*CGPA 9.42 / 10, **Best Outgoing Student***   *Jul 2018 – Jun 2022*

PROFESSIONAL EXPERIENCE

Walmart Global Tech India   *Bangalore, India*

Data Scientist III   *Jul 2024 – Present*
- Designed real-world applications with generative models, leveraging Langchain & LangGraph, and filed patents.
- Developed fine-tuned models, RAG systems, and productionized ML pipelines to process billions of data points.

Data Scientist II   *Jul 2022 – Jul 2024*
- Built models for forecasting, anomaly detection, & quality reporting to improve supply chain & data reliability.
- Evaluated GPU Rapids vs PySpark for large-scale data processing & optimizing performance for billions of data

Data Science Intern   *Jan 2022 – Jul 2022*
- Built a Semi-AutoML solution with Ensemble Learning, DeepAR, and Dask clusters for efficient forecasting
- Developed a MLFlow Manager & streamlined 15+ modules to optimize workflows and align with business goals

RESEARCH EXPERIENCE

Nanyang Technological University   *Singapore*

Research Fellow   *Aug 2021 – Jan 2022*
- Developed a FinBERT-based sentiment pipeline with 84% accuracy, integrating sentiment & engagement metrics
- Published findings in ICIS, uncovering non-linear links between social media sentiment & Bitcoin trading volumes

University of Guelph   *Guelph, Canada*

MITACS Globalink Research Fellow   *May 2021 – Jul 2021*
- Built a scalable React Native app for iOS & Android, ensuring a seamless user experience & AODA compliance.
- Integrated data workflows and tools to support ecological research and experiential learning.

PUBLICATIONS

Early Disease Detection Of Leaves Using Deep Learning And Drones   *2023*

SSRN   *1 citation*
- The paper proposes a drone to capture underside leaf images, detecting diseases missed by aerial methods.
- Using VGG16 and ResNet, the system achieves high accuracy in leaf health classification.

Does Social Media Sentiment Predict Bitcoin Trading Volume?   *2022*

International Conference on Information Systems (ICIS)   *5 citations*
- The paper uses FinBERT and information gain to analyze Bitcoin sentiment with state-of-the-art accuracy.
- It discovers a nonlinear sentiment-volume relationship using LSTM, with a 3–4 hour predictive horizon.

Design of waste management system using ensemble neural networks   *2022*

Designs Journal   *9 citations*
- The paper uses Mask RCNN and YOLOv5 for waste detection and classification with 93.65% accuracy.
- It employs SFM for volumetric estimation and VGG16 for organic waste classification.

Developing A Transdisciplinary Citizen Science Tool: Squirrel Life   *2022*

International Technology, Education and Development Conference (INTED)   *3 citations*
- The paper develops the Squirrel Life app using React Native for inclusive citizen science and learning.
- It applies Agile and AODA standards ensuring accessibility and usability

Adoption of precision agriculture by detecting and spraying herbicide using UAV   *2021*

Basrah Journal of Agricultural Sciences   *7 citations*
- Weed detection using YOLOv3 and KNN - 92.6% and 95.4% accuracy for distant and close-range UAV detection.
- It integrates OpenCV and Gaussian filters for image processing, enabling precise herbicide spraying via drones.

AI crop predictor and weed detector using wireless technologies   *2020*

Arabian Journal for Science and Engineering   *45 citations*
- Naïve Bayes applied for crop recommendation and YOLOv3 with CNN for weed detection using drone imagery
- It employs WSN for real-time environmental monitoring, combining IoT and AI to enhance precision agriculture

PATENTS

System And Methods For Automatic Data And Insight Support Using Natural Language Model

Patent Filed (Walmart) *Dec 2023 - May 2024*

FaaS - Forecasting as a Service: A Semi AutoML Solution

Provisional Patent Filing in Process (Walmart) *Sept 2023 – Present*

A mobile solution for Sleep Apnea Detection via Deep Neural Techniques on Snore Audio

Work In Progress (Vellore Institute of Technology) *Present*

AWARDS

- Google HashCode World Finalist: **International Rank 30**
- **Best Outgoing Student Award** - Vellore Institute of Technology **(All Schools)**
- **Nanyang Technological University** - India Connect Research Fellow Awardee
- **HackGlobal** Finalist - Represented India in the World Finals
- Category Winner - **Walmart Global Techathon** - Flagship Hackathon of Walmart Global Tech
- Grand Winner - **Google GenAI Exchange Hackathon** - APAC Region
- Grand Winner - **HackBangalore** - National Hackathon
- 2nd Rank Nationally at **Unstop Awards 2022**: **Unstop Competitive E-School Leader 2022** Category
- Featured in **Forbes India** April 2022 Edition for **The Best Engineering Student Category**
- **The Economic Times** Campus Stars Class of 2021
- Global Winner **Hack Bangalore 2024**
- Global Techathon 2023 **Category Winner**
- Data Ventures Hack - Walmart **Runners Up**
- Winner of **Rakutens'** Flagship Hackathon - **Rakathon '22**
- Winner of **Optum Stratethon Season 3** International Hackathon
- Winner of **Route Mobile RAPID** International Hackathon
- Winner of **Hackathon Atmanirbhar Bharat 59** National Hackathon
- First Runners Up **Optum Stratethon S02** International Hackathon
- National Finalist in **Myntra HackerRamp - 2021** (Top 7)
- Second Runners Up of **Weavy Build Tomorrow** Hackathon
- Second Runners Up and Winner of Ren Track of **DevJams' 21**
- Recognized as **most crucial data scientist** in the org in Q4 2023 at Walmart
- Published paper **MLOps and Quality Assurance Framework for Data Science Modelling at Scale** - SparkTech Summit - Walmarts Flagship Research Conference
- Ranked among top 10 teams all over Walmart - **Walmart x Google GenAI Hackathon**
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ACADEMIC SERVICE

- Reviewer at **Knowledge and Information Systems (KAIS)** - Springer Indexed Journal - Impact Factor: **3.161**
- **University Teaching Assistant** - Vellore Institute of Technology
- **Programme Representative** - Vellore Institute of Technology **(School of Computer Science)**

SKILLS

Skills: Generative Models, Deep Learning, Machine Learning, Computer Vision, NLP, Python, PyTorch, Tensorflow, Django, ReactJS, NodeJS, React Native, JAVA, C++, OpenCV, Keras, PySpark, Azure, Kubernetes, SQL

Interests: Large Language Models, Multimodality, Reinforcement Learning, Recommender Systems, NLU, Big Data

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