

Jibin Yesudas Varghese

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Education

Oregon State University

Master of Science in Computer Science

- CGPA: 3.97

- Relevant Coursework: Machine Learning, Deep Learning, Cybersecurity, Human Computer Interaction, Ethics of Machine Learning

October 2023 - December 2025

Corvallis, OR

APJ Abdul Kalam Technological University

Bachelor of Technology in Computer Science

- CGPA: 4.0

- Relevant Coursework: Data Structures, Cryptography and Network Security, Computer Networks, Data Mining

August 2018 - June 2022

Kottayam, Kerala

Experience

Oregon State University

Graduate Teaching Assistant

- Guided students in mastering core concepts like software design, and programming fundamentals through personalized support and feedback.
- Conducted office hours to address diverse learning needs, fostering an inclusive and encouraging academic environment.
- Collaborated with faculty to enhance course delivery and maintain a supportive learning community.

November 2024 - Present

Corvallis, Oregon

ORTSOC- Oregon State University

Security Analyst

- Leveraged Zeek, Elastic and Kibana to monitor logs and alerts for malicious behavior in each network.
- Used OSINT to learn about suspicious activity, investigate incidents, coordinate response and mitigate threats.
- Conducted penetration testing to identify vulnerabilities and improve network security.

April - June 2024

Corvallis, Oregon

NeolTO Technologies

MERN Stack Development Intern

- Led full-stack development projects using MERN stack, mastering front-end and back-end technologies.
- Led the development of data-driven applications, focusing on robust backend solutions to manage large datasets.
- Pioneered a team of 5 to create a social media web application with a robust database, implementing user authentication and authorization.

May - July 2023

Trivandrum, Kerala

Projects

Automatic Pith Detection in Tree Cross-Sections Using Deep Learning

- Developing a deep learning model for automated pith detection in tree cross-section images to enhance dendrochronology.
- Utilizing YOLOv8, U-Net, and Mask R-CNN for object detection and segmentation, with Swin Transformer for hierarchical feature extraction.
- Incorporating data augmentation (rotation, CLAHE) and self-supervised learning (SimCLR, MoCo) to improve model robustness and accuracy.

January 2025 - Present

Privacy Risk Analysis on Machine Learning Models using Membership Inference Attacks

- Conducted privacy risk analysis by focusing on the scalability of MemGuard defense against metric-based attacks on complex datasets.
- Uncovered vulnerabilities by demonstrating significant reductions in defense accuracy, challenging the effectiveness of existing defenses.
- Provided new insights into the need for dynamic privacy-preserving strategies in machine learning.

January - March 2024

A Dynamic Social Media Web App

- Designed and enhanced a feature-rich social media platform mirroring those of Twitter.
- Engineered a full-stack social media platform using the MERN stack, emphasizing data architecture and user data privacy.
- Implemented key features such as user authentication, ability to like posts, follow accounts, post tweets and images, and view timelines.

June-July 2023

Depression Detection using Tweets of Single User

- Developed a system to identify early signs of negative or depressive thoughts, demonstrating expertise in machine learning and data analytics.
- Utilized machine learning models to assess percentage of negative tweets of a single user.
- Developed an AI model to analyze tweets for depressive sentiments using ML techniques, aligning with AI applications in healthcare.

January-June 2022

Awards and Volunteering Experience

- Volunteered as a teaching assistant in GenCyber NW Cyber Security Camp in Summer 2024 (July 2024- August 2024)
- Achieved first place in Winter-end boot camp on Android Using Flutter conducted by IIT Ropar.
- Attained Second place in QFiesta 2020, conducted by ISTE Mechatronics Club.

Skills

Technical Skills: Machine Learning, NLP, Cybersecurity, Data Privacy, Data Analytics, MERN Stack Development, Git/GitHub

Programming Languages: C, C++, Python, SQL, Java, JavaScript

Tools: Elastic, Kibana, Zeek, Figma, MongoDB, Express, React, Node.js

NPTEL MOOC Course Certifications

Blockchain and its Applications

Focused on blockchain technology's practical applications, equipping me with the skills to innovate in digital transactions and smart contracts.

Jan - Apr 2023

Programming in Java

Enhanced my object-oriented programming skills, preparing me for software development challenges in a range of industries.

Jan - Apr 2022

The Joy of Computing using Python

Developed a strong foundation in Python for problem-solving, data analysis, and automation projects.

Jul - Oct 2020