

Joel Sam Mathew

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EDUCATION

Indian Institute of Technology (IIT), Palakkad

Kerala, India

- *Bachelor of Technology - Computer Science and Engineering*
CGPA: 9.02/10

August 2019 - May 2023

Kuriakose Elias English Medium School

Kerala, India

- *Class XII (Indian School Certificate)*
Percentage: 97%

April 2019

Abu Dhabi Indian School

Abu Dhabi, U.A.E.

- *Class X (Central Board of Secondary Education)*
CGPA: 10/10

April 2017

WORK EXPERIENCE

Colortokens Inc.

Bangalore, India

- *Member of Technical Staff - I*

July 2023 - Present

- Developed and integrated a dynamic rule engine for policy enforcement within XShield, the zero-trust management platform, streamlining policy application, reducing infrastructure overhead for key components by over 50%, and enhancing scalability and operational efficiency.
- Proposed, implemented, and integrated Layer 3 (L3) network policy enforcement within the container micro-segmentation framework, enabling fine-grained control over traffic paths.
- Implemented conditional collection and visibility of north-south traffic on the server agent, providing greater control over traffic monitoring and analytics.
- Resolved critical issues, handled customer POCs and demos, and contributed to smaller tasks improving overall product stability and reliability.

Shopconnect

Remote

- *Software Intern*

May 2022 - July 2022

- Improved the shopping cancellation flow by implementing a feature to capture user-provided reasons, ensuring smooth integration with front-end and back-end systems.
- Fixed issues and optimized performance on the Shopconnect B2C app in Angular and Node.js codebases, improving system stability and user experience.

UST Global

Remote

- *Research Intern*

June 2021 - July 2021

- Developed a deep learning-based audio sentiment classification system utilizing LSTM networks with MFCC feature extraction.
- Built and deployed an interactive Streamlit web app on Heroku, displaying visualizations and real-time sentiment analysis for user-uploaded audio.

PROJECTS

- **Mail Tag Generator** *Jan-May '23 || [Link](#)*
 - Designed and developed a personalized mail tagging system using a hybrid model combining Latent Dirichlet Allocation (LDA) for topic modeling and GloVe for ranking candidate tags.
 - Implemented the mechanism as a Chrome extension in JavaScript, allowing Gmail users to see contextually relevant tags for their emails, generated in real-time.
- **PlexShare** *Aug-Dec '22 || [Link](#)*
 - Contributed to the development of a lab session monitoring app in C#, involving features like screensharing, collaborative whiteboard, file uploads, and chat functionalities.
 - Implemented key functionalities in the whiteboard module such as session loading and saving, data serialization and storage, and inter-module networking.
- **Android Malware Detection using GNN** *Jan-May '22 || [Link](#)*
 - Proposed and implemented a novel approach to detect malware in Android systems using Graph Neural Networks (GNN) trained on API call graphs, achieving satisfactory results.
 - Utilized Explainable AI (XAI) techniques like GNNExplainer and subGraphX to identify high-weight subgraphs influencing predictions and explored creating a low-computation similarity model based on the insights from the GNN model.
- **Tiger Compiler** *Jan-May '22 || [Link](#)*
 - Developed a compiler for the Tiger Language written in Standard ML using ML-LEX for lexing and ML-YACC for parsing, generating MIPS assembly code.

ACHIEVEMENTS

- Awarded the Best Team Award at ColorTokens for contributions to the product backend, achieving significant improvements in policy decision-making efficiency and accuracy (Oct, 2024)
- Qualified at the state level for the Young Innovators Program (YIP), a prestigious initiative by the Kerala government, for an autonomous pesticide spraying robot (May, 2019)
- Scored 99.67 percentile in JEE Main among 1.2 million candidates and 98.11 percentile in JEE Advanced among 0.25 million candidates (2019)

TECHNICAL SKILLS

- **Languages:** Go, Python, C++, C#
- **Frameworks:** Familiar with React, Tailwind, TensorFlow, Keras, Pytorch
- **Tools:** Linux, Kubernetes, Docker, Git, PostgreSQL, Azure Pipelines

LEADERSHIP AND MENTORSHIP

- **Music Events Organizer, Petrichor (2022):** Organized music competitions and workshops for IIT Palakkad's annual techno-cultural fest, managing participant registration, event logistics, and coordination.
- **Media and Digital Arts Organizer, Petrichor (2021):** Managed media and digital arts activities, overseeing content creation, and art competitions for IIT Palakkad's annual fest.
- **Mentor, NTES (2021):** Mentored university students at the National Technology and Entrepreneurship Summit (NTES), hosted by IIT Palakkad, guiding technical projects and entrepreneurship.