

# Jeffin Joffy P

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## EDUCATION

<b>Indian Institute of Technology Madras</b> <i>BS Degree in Data Science &amp; Applications, CGPA: 8.5</i>	Online 2027 (Expected)
<b>Manipal Institute of Technology</b> <i>B.Tech - Computer Science (Artificial Intelligence &amp; Machine Learning), CGPA: 8.52</i> <i>Achievements: Secured a rank of 903 in MET 2022, awarded an AICTE scholarship covering 60% of expenses.</i> <i>Courses: Operating Systems, Databases, AI/ML, Deep Learning &amp; Neural Networks, Computer Vision, Big Data, Parallel Computing, Web Dev</i>	Udupi, India 2022 - 2026 (Expected)
<b>Hari Sri Vidya Nidhi School</b> <i>High School Diploma with Minor in Computer Science, Percentage: 98.75% (School Topper)</i>	Kerala, India 2020

<b>Programming Languages:</b> C, C++, Java, Python, SQL, JavaScript <b>Data Engineering and Big Data:</b> PySpark, Hadoop, Kafka, Tableau, HDFS, SQL <b>Machine Learning/AI:</b> Pytorch, TensorFlow, OpenCV, LangChain, Scikit-learn, Jupyter Notebook <b>Web Development:</b> HTML5, CSS3, JavaScript, Tailwind CSS, Next.js, Django, Firebase, Vercel, GIT, APIs <b>Operating Systems:</b> Windows, Linux	
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<b>Query: Gemini Powered RAG Application:</b> <ul style="list-style-type: none"><li>Engineered a high-performance Gemini API pipeline that parsed tabular data from multiple 300-page PDFs into structured formats (databases/CSVs) using Tableau, SQLite3, and RAG for NL-to-SQL conversion.</li><li>Achieved a top-13 ranking among 50+ teams at a 12-day ACM Summer School on GenAI at IIT Gandhinagar. <b>Skills:</b> Data Parsing, Streamlit, Tableau, SQLite3, RAG.</li></ul> <b>Java Facial and Speech Detection:</b> <ul style="list-style-type: none"><li>Implemented a robust facial recognition system using OpenCV with Haar cascades (trained on 1187 negatives and 718 positives for 90% accuracy) and implemented Sphinx4-based speech recognition for real-time voice commands.</li><li><b>Skills:</b> OpenCV, Real-time Video, Sphinx4, Java.</li></ul> <b>Optical Chemical Structure Recognition (OCSR):</b> <ul style="list-style-type: none"><li>Designed and executed a rule-based pipeline converting 360 hand-drawn chemical structure images (9 classes) into machine-readable data using advanced preprocessing, multi-scale template matching, Harris corner detection, and Hough Transform-based bond classification.</li><li>Integrated OCR for accurate SMILES conversion and iteratively optimized the solution based on insights from over 10 key research papers. <b>Skills:</b> OpenCV, Hough Transform, Harris Corner Detection, Image Processing.</li></ul> <b>AI-sle: AI-Powered Pantry Tracker:</b> <ul style="list-style-type: none"><li>Engineered an AI-driven web app for pantry management, integrating image classification for real-time inventory tracking, fortified with secure Firebase authentication, and delivering personalized recipe suggestions through OpenRouter APIs.</li><li>Deployed the solution using Next.js and Vercel to ensure scalable, high-performance delivery. <b>Skills:</b> Next.js, Firebase, OpenRouter APIs, AI Image Classification, Vercel.</li></ul> <b>Chicago Crime Analysis:</b> <ul style="list-style-type: none"><li>Leveraged PySpark and Hadoop to analyze 7M crime records (2001–2017), unveiling critical patterns, hotspots, and arrest trends. Developed predictive ML models—including KMeans, Logistic Regression, and Decision Trees—and crafted data visualizations with Matplotlib and Seaborn to drive actionable insights.</li><li><b>Skills:</b> PySpark, Hadoop, ML, Data Visualization, EDA, Feature Engineering.</li></ul>	
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## EXPERIENCE AND EXTRACURRICULAR

<b>Core Committee Member - ACM:</b> <ul style="list-style-type: none"><li>Spearheaded a coding event for 200+ participants by developing 50+ rigorous test cases and streamlining event logistics.</li><li>Represented ACM in the "CACHED" Cryptic CTF at TechTatva'22.</li><li>Crafted compelling visual assets, including logos and social media graphics, to bolster ACM's brand identity</li></ul> <b>Team Member - Cryptonite:</b> <ul style="list-style-type: none"><li>Ranked #4 on CTFtime among Indian cybersecurity teams; competed in forensics and binary exploitation.</li><li>Produced in-depth technical analyses on memory forensics and malware analysis, enhancing team knowledge and strategic capabilities.</li><li>Contributed to malware and blockchain research.</li></ul>	
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## ACHIEVEMENTS AND CERTIFICATIONS

<b>The AI Engineer Path</b> (Scrimba)	October 2024 (View Certificate)
<b>Mastering Big Data Analytics with PySpark</b> (Infosys Springboard)	October 2024 (View Certificate)
<b>ACM Summer School 2024</b> Attendee	July 2024 (View Details)
<b>Supervised Machine Learning: Regression and Classification</b> (Coursera)	July 2023 (View Certificate)
<b>Exploratory Data Analysis for Machine Learning</b> (Coursera)	May 2023 (View Certificate)