KEERTHIRAJAN SENTHILKUMAR

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LinkedIn | GitHub | Portfolio

EDUCATION

The George Washington University, School of Engineering & Applied Science — **Washington, DC**
Master of Science in Computer Science — **May 2026**

- Recipient of Dean's Scholarship Award.
- *Relevant Coursework*: Design and Analysis of Algorithms, Advanced Software Paradigms, Computer System Architecture.

Sri Venkateswara College of Engineering — **Chennai, India**
B.E. in Computer Science and Engineering — **May 2023**

- *Relevant Coursework*: Data Structures, Natural Language Processing, Artificial Intelligence, Machine Learning and Algorithms, Business Intelligence, Advanced User-interface and Technology.

TECHNICAL SKILLS

- **Programming Languages:** Python, Kotlin, JavaScript, React.js, C/C++, Java, HTML/CSS.
- **Tools and Technologies:** IntelliJ, Flask, Firebase, MySQL, BlueJ, GIT, AWS, Tableau, Android Studio, Linux, Django, GraphQL.
- **Other Skills:** Machine Learning, Data Structures, Web App Development, Operating Systems, API Integration, Relational Database Management, Problem-solving, Microservices.

PROFESSIONAL EXPERIENCE

TCS iON — **Chennai, India**
Software Engineer Intern — **Nov 2021 - Dec 2021**

- Engineered a web app for real-time Twitter sentiment analysis, scraping product data to provide actionable insights for critical decision-making. Reduced inference runtime by 40% by incorporating data techniques such as subjectivity and polarity.
- Leveraged Tweepy API for real-time Twitter data integration. Improved model prediction accuracy by 18% using TextBlob over traditional Machine Learning models.

The Sparks Foundation — **Remote**
Web Development Intern — **May 2021 - Jun 2021**

- Devised a fully responsive charity donation website integrating payment gateway with seamless transaction workflows and automated email receipts. Recognized for achieving 98% unit test code coverage for the core logic.
- Utilized modern JavaScript frameworks and Bootstraps to enhance user experience and mobile compatibility.
- Mentored a team of 5+ developers, facilitating pair programming sessions to improve code quality and foster collaboration.

TECHNICAL PROJECTS

Team Lead, Emotion Based Food Recommending App — **Sep 2024 - Nov 2024**

- Led a team of 5 to develop "Mood Bites," a Kotlin-based Android application that recommends and tracks user meals based on their moods, enhancing mental well-being through data-driven insights.
- Designed and implemented a scalable database with Firebase for efficient storage and real-time management of user meals, mood logs, and order information, including automated email receipts for order confirmations.
- Optimized app performance, reducing load times and enhancing responsiveness to ensure a seamless user experience across devices.

Team Lead, GI Tract Segmentation — **Nov 2022 - Mar 2023**

- Led a team of 3 developers to build ML model for segmenting Gastro-Intestinal Tract organs from tumors through MRI scans.
- Applied Deep Context Metric Learning for advanced image clustering and processing—improved survival rates by 8% through targeted treatment focused on tumors rather than surrounding organs.
- Optimized backend scalability to handle 38,000 masked 16-bit image datasets, reducing processing time from 5 hours to 2 hours for smoother operation.

Team Lead, Efficient Water Quality Analysis — **Apr 2022 - Oct 2022**

- Designed an end-to-end model to analyze water quality using multiple factors such as turbidityand hardness.
- Incorporated XGBoost to optimize memory usage and processing speed, resulting in 20% increased model's prediction accuracy.
- Reduced computational load by using hyperparameter tuning and adjusting maximum depth and minimum sample split.
- Deployed the model on IBM Cloud to optimize scalability by 1.5x better than local run.

CERTIFICATIONS

- **API Designer,** API Academy (2023) | **Credential ID:** 159074801.
- **IBM certified Analysis and Prediction,** ICT Academy (2023) | **Credential ID:** PRADS06EN.
- **Programming Foundations,** Duke University (2022) | **Credential URL:** https://coursera.org/verify/98YLYAJQUXZY.
- **Machine Learning,** Stanford University (2022) | **Credential URL:** https://coursera.org/verify/LBWAGV269YVH.
- **Relational Database and SQL,** Coursera (2022) | **Credential URL:** http://coursera.org/verify/MB2V55ZDEUFW