

Periyakaruppan Nagappan

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EDUCATION

Thiagarajar College of Engineering

Jun 2019 – Mar 2023 | Madurai, India

Bachelor of Engineering in Computer Science and Engineering

- CGPA: **9.81/10**, University Rank: **1/150**
- **Relevant Coursework:** Data Structures, DBMS, OOPS, Web Programming, AI & ML, Cloud Computing, Operating Systems, Cyber Security and Cryptography

WORK EXPERIENCE

Zoho, Vulnerability Manager Plus

Jun 2023 – present | Chennai, India

Member Technical Staff

- Collaborated with Endpoint Framework team and Developed Dynamic Custom Group support for Compliance scans, enabling customers to scan specific agents based on criteria instead of relying on static groups, leading to higher usage of the compliance module and boosting revenue by 15%.
- Developed and integrated new combination roles to eliminate runtime role population, enhancing server report security by preventing unauthorized access and reducing security incidents by 10%.
- Participated in monthly Security KT sessions, practised "Zecure" Coding challenges and collaborated with the team to brainstorm innovative secure coding strategies, improving module code integrity.
- Replaced unsafe SQL query string execution with data objects using *Mickey (zoho's internal framework)* and handled all DDL and DML commands via Java, effectively mitigating SQL injection risks.
- Optimized view queries by leveraging ANALYZE and EXPLAIN, refining the use of aggregate functions and joins to reduce query execution time, improving overall view loading time from 17.6 seconds to 2.41 seconds, with an 86.3% efficiency gain.
- Worked with Project managers to design and implement dedicated System Antivirus and Firewall report views, consolidating comprehensive system details and its protection status into a single dashboard, enhancing productivity and reports visibility.
- Developed high-quality code using *Groovy* and conducted rigorous Automation testing with *Apache JMeter*, achieving 99% code stability and reducing production bugs.
- Developed a data population tool to generate fabricated data for our module, reducing testing environment setup time by 96% and eliminating the need for actual agent installations.
- Unified ME User tracking for on-premise and cloud environments to gather customer data usage insights, enhancing product analytics by 20%, while strictly adhering to PII rules and regulations.

Zoho, Unified Endpoint Management and Security (UEMS)

Jan 2023 – May 2023 | Chennai, India

Project Trainee

- Developed open APIs for the patch and vulnerability module using REST API, Servlets/ Jersey (i.e., decline, patch, vulnerability scan, etc.), enabling customers to integrate and adopt it with their third-party software.
- Completed DesktopCentral product Onboarding course and Mickey Internal Framework training, leveraged it to resolve numerous product issues and reduced incoming customer tickets by 15%.
- Finished OWASP WebGoat training, gained expertise in security vulnerabilities, and applied it to place in the top 10 out of 225 teams in internal HackOp CTF events.

Zoho

Jul 2022 | Chennai, India

Summer Intern (Selected through On-Campus Recruitment)

- Mastered advanced Java concepts, including Collections for efficient data handling and design patterns like Singleton and Factory, to enhance code scalability and maintainability.
- Implemented JDBC with PreparedStatement in the server-agent communication module to boost transaction efficiency and prevent SQL injection, ensuring secure database interactions.

ACADEMIC PROJECTS

Early Detection of Chronic Kidney Disease (CKD) using Machine Learning - Capstone Design Project, IBM

Tech Stack: IBM-Cloud, IBM Watson Studio, Scikit-learn, Random Forest Classifier, Python, Flask, MySQL and JIRA

- Identified the challenge of delayed Chronic Kidney Disease (CKD) diagnosis caused by time-consuming and costly traditional methods, addressed this by developing a machine learning-based prediction model, integrating it using flask and hosted in IBM Cloud to enable faster and accurate early detection, improving the chances of timely treatment and recovery.
- Implemented a *Random Forest Classifier* for CKD prediction, achieving an impressive accuracy of 99.16% by optimizing data preprocessing techniques like handling missing values, feature selection, and splitting data for effective model training and testing.
- Followed the Agile methodology for efficient project execution, using *JIRA* for sprint planning, task management, and tracking milestones, ensuring timely delivery of each development phase.

Alumni Tracking System

Tech Stack: React Js, MongoDB, Node and Express (MERN Stack)

- Developed a web-based system using *React.js*, enabling alumni members to search and register to their colleges, while allowing colleges to verify and authenticate registered alumni, ensuring secure alumni management.
- Used *MongoDB* to store alumni data with a flexible schema, facilitating updation of personal details, constructed highly efficient backend logic with node and express js, enabling colleges to efficiently search and manage alumni records with high performance, which improved data accessibility and record management, resulting in an optimized and scalable system.

- Facilitated communication between peers using *WebSockets* and enabled directorates to post events and announcements on their pages, fostering better interaction and engagement between alumni and colleges.

Design and Development of Automatic Call Handling (ACH) Framework Conference Paper (Accepted)

- Designed and researched a mobile application prototype that detects incoming calls, determines user speed, and intelligently blocks or allows calls based on emergency priority using real-time GPS tracking.
- Enhanced model accuracy to 98.6% with an optimized response time of 389.9ms (50th percentile devices) and 178ms (25th percentile devices), ensuring efficient call handling while minimizing driver distraction.

E-Commerce Buyer and Seller Full-Stack Application [↗](#)

Tech Stack: Next Js, React Js, Redux, Webhooks, Stripe, Cloud Firestore, NextAuth, Tailwind CSS and Fake Store API

- Built a fully responsive e-commerce application using *Tailwind CSS*, seamless across devices, which improved overall user experience on desktop and mobile devices. Utilized server-side rendering with *Next.js*, improving both the performance and Search Engine Optimization (SEO) by pre-rendering pages on the server before serving them to the client.
- Integrated Google authentication with *NextAuth Js* for secure login, allowing users to easily sign in with their Google accounts, enhancing both security and convenience.
- Integrated Stripe payment processing with real-time updates and reliable order management via webhooks, while leveraging Redux for scalable state management of complex data like the shopping basket across multiple components.

Smart Data Visualizer of Underprivileged Student Records- Anubhuti NGO [↗](#)

Tech Stack: Bootstrap, Chart Js, MongoDB, Flask, Figma

- Identified the challenge of managing student data in Excel sheets and developed a solution that not only allows for direct data uploading via a form but also provides an option to transfer existing Excel data to the website, streamlining data entry and eliminating the hassle of manual updates.
- Worked on creating interactive graphical visualizations using *Chart.js*, providing teachers with actionable insights into student data, thereby enhancing the ability to make informed decisions in rural areas.
- Used *Bootstrap* for responsiveness, making the platform accessible across devices, which ensured ease of use for teachers managing student data in rural areas, regardless of the device they used.

SKILLS

Programming Languages: Java, C, C++ • **Database:** RDBMS: PostgreSQL, MSSQL, MySQL | NoSQL: MongoDB •

Web Development: React js, Node js, Express js, Bootstrap, Tailwind CSS, JavaScript-ES6 • **Cloud Computing:** GCP, AWS, Docker •

Technical Tools: Informatica, Git, Jupyter Notebook, MuleSoft, Blender, JUnit, Apache JMeter, Selenium, Wireshark, Firebase •

Libraries: NumPy, Pandas, Matplotlib, SciKit-Learn • **Agile Methodology:** Kanban • **Soft Skills:** Problem-solving, Organizational, Teamwork, Interpersonal Communication

CERTIFICATES

- **Spoken Tutorial Project Certificate for Completion of Java, Python, C, Cpp and RDBMS PostgreSQL Training** — Offered by IIT Bombay (View All Certificates [↗](#))
- **HTML, CSS, and Javascript for Web Developers** — Offered by Johns Hopkins University on Coursera (Link [↗](#))
- **SQL and Relational Databases 101** — Offered by Big Data University, IBM on cognitiveclass.ai (Link [↗](#))
- **Google Cloud Skill Batches & Quests** — Offered by Google (Link [↗](#))
- **Programming for Everybody (Getting Started with Python)** — Offered by University of Michigan on Coursera (Link [↗](#))
- **Getting Started with AI on Jetson Nano** — Offered by Deep Learning Institute, NVIDIA (Link [↗](#))

LEADERSHIP EXPERIENCE

GNU/Linux User Group of TCE (GLUGOT) FS'tival Organizer and Mentor

Nov 2022

Organized the Workshop event and mentored the Sophomore team in building foundational knowledge and guided the Junior team in completing a project using Tailwind CSS.

Coder's Club Coordinator

Jun 2021 – Nov 2021

- Curated and posted weekly coding challenges on **HackerRank**, reviewed them and clarified doubts for the students.
- Organized 5+ online workshops with alumni on **Technologies** and **Interview experiences** for students.

AWARDS AND ACHIEVEMENTS

- Achieved the Academic Topper Award for securing 1st rank out of 150 students in the Bachelor of Engineering in Computer Science and Engineering.
- Secured First place in Code For Good 2022 Hackathon conducted by JP Morgan Chase & Co out of 100 highly competitive teams selected from numerous participants across India, for solving the given NGO problem statement.
- Awarded the Best Project Demo Stall on React.js at GLUGOT FS'tival 2021 conducted by our college, for providing an MVP web-based solution on Alumni Tracking.
- Received the prestigious Garret STEM Merit Scholarship for academic excellence, selected as 1 of only 15 students from our entire college.