

JAI VIGNESH RAVICHANDRAN

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EDUCATION

Northeastern University

Masters in Software Engineering Systems (GPA: 3.76 / 4.00)

Sep 2024 - Dec 2026

Boston, Massachusetts

Anna University

Bachelor of Technology in Computer Science and Business Systems (GPA: 3.80 / 4.00)

Sep 2020 - May 2024

Chennai, India

WORK EXPERIENCE

SAIRAM NSS, Anna University

Sep 2023 -- Jan 2024

Chennai, India

Software Engineer Intern (App Developer)

- Developed a cross-platform **Flutter** app integrating **Firebase Authentication**, secure password reset, and **FCM push notifications**, supporting **400+ volunteers** with real-time event alerts on Android/iOS.
- Implemented dual admin & volunteer workflows with **Firebase Realtime Database**, enabling attendance tracking, event RSVPs, automated service-hour monitoring, and real-time volunteer management dashboards.
- Engineered **Firebase modules** for donor search, gallery storage, and record digitization, eliminating significant manual effort through automation and streamlining event logistics.

PROJECTS

Cloud Web Application | Node.js, Sequelize, Terraform, Packer, AWS, GitHub Actions, Jest, Shell Scripting

[Code](#) — [Demo](#)

- Architected a cloud-native backend with **Node.js** and **Sequelize ORM**, delivering **RESTful APIs** and provisioning **AWS resources (EC2, RDS, VPC, S3, Route 53, KMS/Secrets Manager)** using **Terraform, Packer**, and **shell scripts**.
- Developed an end-to-end CI/CD pipeline with **GitHub Actions**, integrating **Jest** tests and **Packer** AMI baking, orchestrated deployments and launch template updates to enable **zero-downtime**, transforming a **20-min** pipeline into a **fully automated** process.
- Configured an **AWS Elastic Load Balancer** with **CloudWatch/StatsD** monitoring and **AutoScaling Group** policies to dynamically scale EC2 instances under real-time demand.

DexCom | Spring Boot, React-TypeScript, AWS Lambda, EventBridge, MongoDB Atlas, Chart.js, iTextPDF

[Code](#) — [Demo](#)

- Developed a full-stack diabetic glucose monitoring dashboard using **Spring Boot, React-TypeScript**, and **Dexcom API** for real-time data visualization and analytics.
- Built an event-driven pipeline with **AWS Lambda (Python)** and **EventBridge** for 5-minute glucose data polling, leveraging **MongoDB Atlas** for reliable persistence and querying.
- Enhanced backend efficiency via **Hibernate ORM**, pagination, and indexing (60% faster response), and integrated **Chart.js** and **iTextPDF** for predictive insights and automated reporting.

EcoDev | AWS CDK, TypeScript, React, DynamoDB, GitHub API

[Code](#) — [Demo](#)

- Provisioned 3+ AWS services (**Lambda, API Gateway, DynamoDB**) using **CDK**, enabling ingestion of **200+ GitHub Actions workflow runs** through secure webhook verification pipelines.
- Structured a time-series **DynamoDB schema** and integrated the **GitHub API** with pagination, processing metadata across repositories under a GitHub username to capture language distribution (**10+ languages**).
- Delivered a **React dashboard** with 6+ RESTful APIs, presenting interactive visualizations of **carbon footprint trends** from CI/CD workflows and repository **language diaspora**.

Sphere | React, Node.js, Express.js, MongoDB Atlas, HTML5/CSS3, JWT, RBAC, NodeMailer

[Code](#) — [Demo](#)

- Implemented RESTful APIs with **Express.js** and **Mongoose** on **MongoDB Atlas** to power 5 core modules - marketplace listings, events, clubs, social feeds, and job postings, integrated **NodeMailer** for automated email workflows.
- Enforced enterprise-grade security with **JWT** and **Passport.js**, safeguarding 100% of admin routes with role-based access control.
- Created a responsive **React** single-page application with 10+ reusable components and React Router, embedded an AI chatbot microservice (OpenAI API) for real-time student assistance.

TECHNICAL SKILLS

Languages

C++, Java, Python, JavaScript, TypeScript, Dart

Frameworks & Libraries

JavaEE, Spring Boot, Node.js (Express, Sequelize, Jest), Flask, React, Next.js, Flutter, Redux, Tailwind CSS, Bootstrap

Databases & BI Tools

MySQL, PostgreSQL, MongoDB Atlas, Firebase (Firestore/Realtime DB), SSIS, Power BI

Cloud & DevOps

AWS (EC2, Lambda, DynamoDB, S3, RDS, CDK), GCP, Terraform, Packer, Docker, GitHub Actions (CI/CD), Linux shell scripting, WebSockets, StatsD

Practices & Tools

Git, RESTful API design, JWT, Agile/Scrum

RESEARCH & ACTIVITIES

Smart India Hackathon

Awarded **1st Prize** by the Ministry of Rural Development, Government of India for leading the design and development of **Phaila**, a Flutter-Firebase e-commerce solution empowering Self-Help Groups.

App Frenzy Award

Received **Best App** recognition for **V-Connect**, a volunteer management app built with Flutter and Firebase, showcasing leadership in product innovation and delivery.

Best NSS Coordinator

Honored for outstanding leadership in coordinating NSS events and volunteer initiatives, boosting participation and driving measurable social impact.

IEEE Publication

Published "Cardiovascular Disease Prediction Using Randalistic" in **IEEE Xplore**, indexed by Scopus.