SUVAB BARAL

SOFTWARE ENGINEER

CONTACT

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📍 Stony Brook, New York, USA

SKILLS

Programming Languages: Node.js, Java, Python, C++, React.js, React Native, Angular.

Tools: Linux, Git, Jira, AWS (Lambda, EC2, Cognito, Greengrass IoT, Cloudwatch, SQS, S3), Android Studio, Serverless, Tensorflow, Keras, MQTT, Docker, Apache Kafka, Bluetooth technology.

Databases: PostgreSQL, MySQL, AWS Dynamo DB, MongoDB, InfluxDB (Time series database).

Languages: English, Nepali, Hindi.

EDUCATION

Stony Brook University

Master of Science (M.S) - Computer Engineering
Expected December 2024
CGPA: 3.78 / 4
Relevant courses:
Machine Learning for Engineering Systems, Computer and Robot Vision, Deep learning algorithms and software, Mobile Sensing Systems and Applications, Parallel processing architectures.

Sri Ramakrishna Engineering College, Anna University

Bachelor of Engineering (B.E) - Computer Science Engineering
2016 - 2020
CGPA: 9.19 / 10
Relevant courses:
Data Structures, Design and Analysis of Algorithms, Web Technology, Artificial Intelligence and Machine Learning, Cloud Computing.

EXPERTISE

- Skilled in designing robust and scalable full stack software solutions.
- Proficient in machine learning models and Large Language Model (LLM) API integration.
- Over 4 years of experience in designing and developing backend servers and REST APIs using Express.js, Django, Java, and SQL/NoSQL databases.
- Over 4 years of experience in cross-platform mobile app development with React Native and Redux.
- Experienced in time series analysis and real-time data interaction, specializing in Apache Kafka.
- Proficient with CI/CD tools, including Convox and CircleCI.
- Proven leadership in managing agile teams, focusing on consistent and incremental releases.
- Automated unit testing for both frontend and backend services.

WORK EXPERIENCE

Research Assistant and Software engineer

Research Foundation for SUNY, USA   01/2024 - Present

- Developed a scalable and secure infrastructure for **continuous health monitoring system** using Node.js, Python, MQTT, MySQL, InfluxDB, and AWS IoT for storing and analyzing continuous time series data from Ultra wide-band (UWB) sensors aiding in vital signs monitoring and early detection of symptoms.
- Conducted research on various machine learning models, including LLMs and transformers, to optimize activity recognition, location trajectory, and vital signs monitoring based on UWB sensor data.
- Created a user-friendly **mobile application for home self-assessment** of vital signs, body coordination, muscle strength, and more.

Associate Technical Lead

Rently, Remote   03/2023 - 08/2023

- Led the strategic design and **collaboration with Netsuite 360SB** to engineer the new Rently MRR (Monthly Recurring Revenue) Billing System.
- Demonstrated a strong commitment to Rently's business vision by enhancing the billing model, and designing the backend for the overall billing experience.
- Achieved a **35% reduction in manual billing workload**, alongside a **30% decrease in billing issues** for the product suite.

Senior Software Engineer

Rently, Remote   04/2022 - 03/2023

- **Designed IoT device monitoring solution** for smart locks and thermostats using Node.js, Java, AWS EC2, DynamoDB, PostgreSQL, MQTT, and Apache Kafka.
- Developed a **data analysis algorithm** to enhance security, monitoring, and energy conservation from IoT device data.
- Boosted **algorithm performance by 50%** through multithreading and parallel processing.
- Achieved over **70% adoption rate for monitoring software** within Rently's customer base.
- Increased team velocity by 2-4 story points per sprint as a **Scrum Master**, involved during talent recruitment as **technical reviewer, recruiter, and mentor**.

Software Engineer

Rently, Remote   09/2020 - 03/2022

- Mastered full-stack development, creating Rently's cross-platform smart home app in React Native and server-side solutions with Node.js, Java, Python, PostgreSQL, and AWS.
- Led development of the **Bluetooth Low Energy (BLE) library** and **Rently Smart Home Alexa skill** for seamless communication with smart devices.
- Enhanced market presence by leveraging in-house smart locks, eliminating reliance on third-party solutions.
- Maintained over **95% test case coverage** for all projects.

Software Engineer Intern

Rently, India   09/2019 - 08/2020

- Championed the role of Node.js developer, working on four impactful AWS Lambda server projects.
- Developed and maintained features, designed robust **REST APIs, and backend solutions** for the Rently Smart Home mobile app.
- Proficiently utilized AWS services like Lambda, Cognito, DynamoDB, S3, and SQS for server-side and web development.
- Executed agile methodologies, consistently delivering tangible outcomes.

Software Developer Intern

Virtusa, India   05/2019 - 07/2019

- Utilized the Angular framework to architect a modular library, crafted to expertly manage and remotely log errors from frontend applications, for elevating the error-handling capabilities.