Ichcha Baliga
Software Engineer
Fremont, CA| ichchabaaliga@gmail.com |[LinkedIn](#) | [Portfolio](#)

SUMMARY

Software Engineer with expertise in full-stack development, AI, and cybersecurity. Skilled in building secure, scalable systems and delivering high-quality APIs that drive innovation. Passionate about using cutting-edge tech to solve complex problems and create impact.

WORK EXPERIENCE

Web Application Developer, Centre for Invasive Species and Ecosystem Health, UGA   **Oct 2024 - Current**
- Leading the development of a Lab Protocol Management System using AJAX, jQuery and Adobe ColdFusion to standardize experiment protocols across entomology institutions, while implementing version control and approval workflows to reduce compliance errors by 60 and improve document accessibility by 80%, facilitating collaboration among over 100 research labs.
- Currently designing a scalable sensor management system for Georgia Weather, to manage sensors across 85 weather stations, including features to track sensor performance, maintenance requests, and GPS-based sensor locations, ensuring operational reliability and accuracy.

Website and Technical Support Volunteer, Hawai'i Children's Action Network (HCAN)   **Jul 2024 - Sep 2024**
- Optimized the HCAN website, using NationBuilder CMS, to enhance user privacy, experience and SEO increasing website traffic by 40%.
- Implemented advanced security measures, including ReCAPTCHA and real-time transaction monitoring, to prevent over 95% of credit card testing attacks, safeguarding sensitive payment data and reducing fraudulent activity.

Graduate Assistant, Office of Assessment and Accreditation, UNC Charlotte   **Sep 2022 - Jun 2023**
- Redesigned the official website for the Office of Assessment and Accreditation using Drupal, leveraging PHP, HTML, CSS, and JavaScript to improve load times by 30% and boost user engagement by 65% through enhanced navigation and responsive design.

Full-Stack Engineer, General Electric Company (GE) - CoreTech and Cyber   **Apr 2022 - Jul 2022**
- Co-developed a ticketing system - SWIFTT, adding chat support and workload management, which expedited access request resolution by 60% and reduced response time from 5 to 2 hours.
- Engineered a scalable email notification system with event logging using HTML templates, Django, PostgreSQL, AWS Lambda and AWS API Gateway, which improved client engagement by 80% through personalized updates and reminders.
- Modernised UI development by creating 12+ modular components with React and Redux, reducing development time by 30% and increasing re-usability by 40%.

Cybersecurity Research Specialist, General Electric Company (GE) - CoreTech and Cyber   **Jan 2021 - Mar 2022**
- Architected a secure and scalable Role-Based Access Control (RBAC) system to manage AWS Redshift data access permissions, optimizing administrator oversight by 75%.
- Devised custom Python Flask REST APIs, to secure admin-only access with custom authorisation module, and Python scripts for automated permission revocations and account deactivation, significantly reducing unauthorized data access by 30%.
- Built a seamless CI/CD pipeline using Jenkins, Docker, and Kubernetes on AWS EC2, reducing deployment failures by 40% and ensuring smooth, scalable application management.

Digital Technology Co-Op, General Electric Company (GE) - CoreTech and Cyber   **Jul 2020 - Dec 2020**
- Implemented an end-to-end feature in a codeless ETL tool that creates data pipelines from BOX and Amazon S3 to AWS Redshift using Python SDKs, reducing ETL creation time by 80% and ensuring 99.9% data accuracy.

Software Intern, Robert Bosch Engineering and Business Solutions Private Limited (RBEI)   **Jan 2020 - Apr 2020**
- Developed a secure document management system with Angular, Java, MySQL, and Amazon S3, streamlining the handling of thousands of documents while boosting search speed by 70% and halving retrieval times for a seamless user experience.

EDUCATION

College of Computing and Informatics, University of North Carolina   **Charlotte, NC**
MS in Computer Science - Concentration in Information Security and Privacy   Aug 2022 - May 2024
Relevant Coursework: Network Security, Machine Learning, Computer Networks, Software System design and Implementation, Data Structures and Algorithms, Database Systems, Network-based Application Development, Intelligent Systems, Principles of InfoSec & Privacy.

Bangalore Institute of Technology   **Bangalore, IN**
BE in Computer Science   Aug 2016 - Aug 2020

SKILLS

Programming Languages:	Python, C/C++, Java, JavaScript, Typescript
Web Development & Frameworks:	React, Node, Angular, HTML, CSS, Django, Flask, Fast API, REST APIs, AJAX, jQuery
Databases & ORMs:	SQL (MySQL, PostgreSQL, SQLite), NoSQL (MongoDB), Sequelize, SQLAlchemy
Cloud Services & Deployment:	AWS (Redshift, ECS, EKS, Lambda, Fargate, S3, CodeDeploy, CloudWatch), Docker, Git, Jenkins

PROJECTS

- **Suspect Sketch Retrieval from Linguistic Description**: Used Natural Language Processing (NLP) and Generative Adversarial Networks (GAN) to generate and retrieve suspect sketches with an accuracy rate of 85% based on verbal descriptions, processing each description in under 30 seconds.
- **Budget Tracking System**: Engineered a comprehensive web-based budget tracking system with automated reporting, custom reminders, and D3.js interactive charts, incorporating a Python-based linear regression model for expense prediction, which enhanced financial oversight by 30% and achieved an 85% R^2 score ich monthly cost forecasting.
- **Data Anonymization and Privacy tool**: Leveraged Databricks and PySpark to anonymize sensitive data across 20 datasets, achieving a 95% reduction in identifiable information and ensuring compliance with data protection regulations, with an optimized processing time of 10 minutes per dataset.

RESEARCH

"A Survey on Intrusion Detection Systems using Deep Reinforcement Learning", published at the International Conference on Artificial Intelligence and Data Science (ICAIDS), 2022.