PARTH SHIROYA

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EDUCATION

Master of Science in Computer Science (CGPA: 3.6 / 4.0) — **August 2023 - May 2025**

California State University - Sacramento, California, United States

Bachelor of Engineering in Information & Communication Technology (CGPA: 8.5 / 10.0) — **August 2019 - May 2023**

Gujarat Technological University, Gujarat, India

SKILLS

Programming Languages: Python, Java, C++, C#, TypeScript, Bash/Shell, JavaScript (ES6+), HTML5, CSS3

Databases: MySQL, NoSQL, PostgreSQL, MongoDB, Microsoft SQL Server, Oracle SQL, Redis

Libraries & Frameworks: React, Angular, Spring MVC, .NET Core, PyTorch, TensorFlow/Keras, Scikit-Learn, XGBoost, Pandas, NumPy

Tools & Platforms: Docker, Git/GitLab, Linux/Unix, REST APIs, CI/CD, Node.js, Angular/AngularJS 1.8, Redis, AWS (EC2, S3), Kubernetes CLI, Networking, Operating Systems, Software Debugging & Testing

EXPERIENCE

Web Developer Student Assistant **Information Resources & Technology (IRT) - CSUS, Sacramento** — **January 2024 - May 2025**

- Developed and maintained full-stack, cross-browser web applications using JavaScript (ES6), HTML5, CSS3, PHP, and MySQL, enhancing accessibility compliance (WCAG 2.1) for 31,000+ students and 1,700+ faculty.
- Utilized Git for version control and executed shell commands in a Linux environment to support routine updates and deployment testing.

Data Analytics Intern **California Air Resources Board (CARB), Sacramento** — **January 2025 - April 2025**

- Developed and maintained real-time Power BI dashboards for air quality monitoring, enabling interactive visualizations of pollutant concentrations across California regions.
- Automated ingestion of large environmental datasets using Python (pandas, NumPy) and SQL, enabling real-time data refreshes in web dashboards.

Software Development Intern **Yardi Systems, Oxnard,CA** — **May 2024 - August 2024**

- Built real-time dashboards using Angular, TypeScript, and RxJS to enhance UI responsiveness and user engagement.
- Integrated SQL Server with Angular via REST APIs and data-binding logic, optimizing data delivery and performance.
- Built modular backend services in C#/.NET with SQL Server, applying partitioning and indexing techniques for scalable data processing.
- Designed secure, scalable RESTful APIs in .NET Core with JWT-based authentication, role-based access control, and standardized error handling.

PROJECTS

LiDAR-Based Indoor Surface Classification using Machine Learning [Accepted for publication at IEEE CCNC 2026] — **Spring 2025**

- Developed supervised classifiers (XGBoost, Random Forest, Neural Network) to classify material types (semi-specular, low-specular) from 86K+ LiDAR points.
- Engineered 10+ custom geometric and intensity-based features (patch-level statistics, angular metrics) using NumPy, pandas, and k-d tree neighborhood search, improving accuracy by 12% over raw intensity baselines.
- Designed cross-sheet validation for robust generalization, achieving 77% accuracy and AUC-ROC >0.80 on unseen material samples.

ICU Mortality Prediction using Real-World Clinical Data [GitHub Link] — **Spring 2025**

- Developed classification models on MIMIC-III and eICU clinical datasets using XGBoost and PyTorch, applying core ML algorithms to real-world patient data.
- Preprocessed structured clinical data by imputing missing values, scaling features, and addressing class imbalance with SMOTE.
- Simulated deployment using patient-wise data splitting and cross-dataset validation to test generalization and avoid data leakage.
- Achieved robust performance: AUC-ROC of 0.771 (XGBoost), 0.758 (Neural Net), with 64.8% recall; cross-validated on both datasets to mimic real-world deployment.

HomeServices – On-Demand Household Services Platform [GitHub Link] — **Spring 2024**

- Built a multi-portal web platform for managing household services (e.g., cleaning, appliance repair) with distinct customer, provider, and admin interfaces.
- Engineered a scalable backend using Spring MVC and MySQL with modular services for booking, payments, and user management; integrated Razorpay for secure transactions.
- Designed responsive UIs using HTML5, CSS3, and Bootstrap, ensuring accessibility and cross-device usability.
- Used Git and shell scripting in a Linux environment to manage deployments and automate project iterations.