CHIRAG BELLARA

Full Stack Developer + AI Engineer | +1-260-498-5222 | chiragbellara7@gmail.com | LinkedIn | Portfolio | San Francisco, CA

Software engineer with 3 years of experience building scalable full-stack applications. Proven track record across enterprise environments, with hands-on expertise in Python, JavaScript, React, and cloud platforms (AWS, GCP). Strong foundation in machine learning, NLP, and distributed systems, with passion to create user-centric AI-enabled software that solves real-world problems.

WORK EXPERIENCE

Data Scientist | Purdue University **May 2024 – August 2024**

- Designed and deployed scalable end-to-end **ML pipelines** using scikit-learn, enabling data-driven forecasting of key performance metrics improving decision-making on system throughput and resource allocation.
- Conducted in-depth **research** on Digital Twin systems, focusing on mathematical modelling and performing quantitative evaluations to identify high-impact industrial applications.

Senior Full Stack Developer | Accenture Solutions **January 2021 – July 2023**

- **Led an agile team** of five developers, researching low-code no-code alternatives for the existing system. Prepared proof-of-concept prototypes proving the adoption of Mendix into the current system reduced development times by over 40%.
- Engineered a real-time analytics and automated reporting pipeline in **VB.NET**, optimizing performance to cut report generation time by about 85% (from 4 minutes to 35 seconds) and eliminate manual processing errors.
- Built UI components in **TypeScript** and **React** to improve consistency across internal interfaces.
- Designed and deployed **RESTful APIs** and cloud-native microservices using **.NET Core**, serving over 15,000 API calls daily.
- Implemented caching and indexing strategies for Redis to improve query speed and reduce database load times for both relational (**SQL Server**, **MySQL**) and NoSQL (**MongoDB**) databases.
- Designed and maintained distributed systems using microservices architecture with **Java** and **Node.js**, enabling scalable performance and reducing backend response latency by 25% under peak load.
- Collaborated with a team of 10+ to resolve over 50 complex bugs, ensuring on-time project delivery and boosting team efficiency by 25%. Recognized for time coordination, adaptability, and rapid learning.

PROJECTS

Studying The Linguistic and Psychological Markers in the Speech of Serial Killers | [Code]

- Conducted a comparative psycholinguistic analysis of serial killer and non-criminals. Analyzed over 100 hours of interview data using transformer-based models and LIWC to study speech patterns and psychological markers. Built modular pipelines for sentiment/emotion classification and topic modeling in speech-derived text, bridging language and behavioral cue.
  Technology Stack: Python, RoBERTa, LIWC, GoEmotions, Topic Modeling, NLP, Jupyter, Data Preprocessing

PiXl: Social Media for Foodies | [Code]

- Built a full-stack social media app for food lovers using Spring Boot and React, featuring profiles, recipe sharing, media uploads, likes, and follows. Added notifications, post collections, dynamic reloads, and a batch ETL pipeline for efficient post handling. Optimized backend performance and deployed on AWS and Google Cloud with a responsive UI using Material UI.
  Technology Stack: Java, JavaScript, Spring Boot, MySQL, React, Google Cloud, AWS, REST APIs, ETL Pipelines

ViXlate – Video Translation using AI | [Code]

- Led development of an AI-driven speech translation system using OpenAI Whisper (ASR) and CoquiTTS/Bark (TTS). Built preprocessing and inference pipelines for transcription, multilingual voice synthesis, and real-time AV merging via FFmpeg. Delivered an accessible web interface using Flask and React, simulating real-world speech-to-speech workflows.
  Technology Stack: Python, OpenAI Whisper, CoquiTTS, Flask, FFmpeg, Google Translate, HTML5, CSS3, JavaScript

TECHNICAL SKILLS

- **Programming Languages:** Python, JavaScript, TypeScript, Java, C#, HTML, CSS
- **Libraries and Frameworks:** React, Angular, Node.js, Redux, .Net Framework, Django, FastAPI
- **Database and Analytics:** SQL Server, MySQL, MongoDB, Redis, Elasticsearch, GraphQL
- **Tools & Platforms:** JUnit, AWS, Kubernetes, Docker, CI/CD, GitHub Actions, GCP, Visual Studio, Shell Scripting
- **Machine Learning & Data Science:** TensorFlow, NLP, Transformers, LLMs, Hugging Face, Scikit-learn, OpenAI, LangChain

EDUCATION

MS in Computer Science, Purdue University | GPA: 3.88

- Coursework: Deep Learning, Operating Systems, Data Analytics, Software Engineering, NLP, Distributed Systems, AI, Systems Programming.

BE in Information Technology, University of Mumbai | GPA: 3.15

- Coursework: OOP, JAVA, Python, Database Management, Data Structures & Algorithms, CS Fundamentals, Cloud Computing

PUBLICATIONS

- Studying The Linguistic and Psychological Markers in the Speech of Serial Killers (MS Thesis)
- Street Quality Mapper: Real-time Pothole Identification and Street Quality Mapping using Signal Processing (IEEE)

AWARDS & HONORS

- ACE Award, Accenture, 2022 - Recognized for outstanding contribution to the My Solution Planner project.
- Best Algorithm Award, EYIC - IIT Bombay, 2021 - For the “Street Quality Mapper” project, published at IEEE ICNTE 2021.