Sri Ranga Bharadwaj Chakilam

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➜ Professional Summary

AI/ML & Cloud Engineer specializing in Generative AI, Prompt Engineering, and Cloud-based AI solutions. Experienced in developing and deploying ML models, building production-ready websites using AI prompting, and integrating OpenAI APIs into real-world applications. Skilled in bridging machine learning, full-stack development, and cloud computing to deliver intelligent, scalable solutions. Passionate about transforming innovative AI ideas into tangible business impact.

➜ Experience

Software Developer (Web & Cloud Applications) -   June 2023-Present
IvaTech Consulting, Mississauga, Ontario

- Designed and developed scalable, cloud-integrated web applications using **React.js, Node.js, and MongoDB**, improving overall application performance by 30%.
- Implemented **RESTful API**s for seamless communication between frontend and backend systems, enhancing data flow efficiency.
- Integrated **AWS services** (S3, EC2, and Lambda) for hosting and automating deployment pipelines, reducing manual deployment time by 40%.
- Optimized **frontend performance** through lazy loading, caching, and code splitting, ensuring faster load times across devices.
- Collaborated cross-functionally with UI/UX and backend teams to deliver responsive, accessible, and user-friendly interfaces aligned with WCAG standards.
- Configured **CI/CD pipelines** using GitHub Actions to automate testing and deployment, maintaining continuous delivery with minimal downtime.
- Contributed to internal tools that enhanced workflow automation and improved data visualization for clients using **React and Chart.js**.

➜ Skills & Competencies

- **Languages**   Python, Javascript

- **ML/DL Frameworks**   PyTorch, Scikit-learn, TensorFlow

- **Core AI Concepts**   Deep Learning (CNNs, RNNs, Transformers), Computer Vision, Natural Language Processing (NLP), Generative AI, Edge AI, Prompt Engineering

- **Cloud & Deployment**   AWS, Docker, Firebase, Netlify, Vercel, Github Actions

- **Web Technologies**   Django, React.js, Node.js

- **Tools & Practices**   Git, OpenCV, REST APIs, CI/CD Pipelines, Agile/Scrum Methodology

➜ Education

Conestoga College, *Ontario, Canada*   *2025*
Postgraduate Diploma in Web Development   CGPA : **3.22**

Sri Chandra Sekharendra Saraswati Viswa Maha Vidhyalaya, *Kancheepuram, India*   *2023*
Bachelor of Engineering in Computer Science and Engineering   CGPA : **3.79**

➔ Projects

Human Emotion Recognition & Evaluation System | *Django, TensorFlow, OpenAI API*   **Link**
- Developed an AI-driven emotion recognition web platform that identifies seven human emotions from facial expressions using a CNN trained on the FER2013 dataset.
- Integrated OpenAI GPT API to generate context-aware feedback messages for mental wellness recommendations based on detected emotions.
- Designed a scalable Django backend with REST APIs and WebSockets for real-time inference and response streaming.
- Achieved 88% model accuracy on validation data through fine-tuning and real-time preprocessing with OpenCV.

Generative AI Website Builder Using Prompt Engineering | *Lovable.dev, OpenAI API, Next.js, Netlify*   **Link**
- Built a Generative AI-based low-code web builder that creates production-ready websites using prompt engineering and AI code generation.
- Designed structured prompts to automate frontend and backend generation, content creation, and SEO integration.
- Utilized OpenAI GPT models for HTML/CSS/JS code synthesis and real-time UI generation.
- Delivered fully functional websites for multiple organizations:
    - 🌐 techbeetle.org | 🌐 sakhyanalytics.com | 🌐 bcc.org
- Reduced overall web development turnaround time by over 60%, showcasing the potential of AI-driven software automation.

Automatic E-Challan Generation for Helmet Violations | *Python, CNN, Tesseract OCR, OpenCV, SMTP*   **Link**
- Designed an automated traffic-violation detection system that identifies motorcycle riders not wearing helmets and generates corresponding e-challans without human intervention.
- Implemented a CNN-based object-classification model to first detect whether a rider is wearing a helmet, followed by Tesseract OCR to extract the vehicle license number from the detected frame.
- Integrated a MySQL database to store extracted license data and retrieve registered owner details for verification.
- Automated the digital challan generation and notification process using SMTP, delivering violation details directly to the registered user's email.
- Developed a GUI interface for authorized officers to monitor input images, extracted text, and challan logs.

Face Mask Detection & Alerting System | *Python, OpenCV, TensorFlow, Keras, Computer Vision*   **Link**
- Developed a COVID-19 safety monitoring system that detects individuals without face masks in real time and triggers voice-based alerts for compliance.
- Built a MobileNetV2-based CNN to classify video frames into Mask and Without Mask categories with high accuracy, using custom training datasets.
- Utilized OpenCV for face detection and preprocessing, drawing live bounding boxes (green for masked, red for unmasked) over detected faces.
- Integrated face recognition to identify known individuals via a pre-trained .yml dataset, enabling personalized alerting and logging.
- Deployed the system for use in public and institutional spaces (colleges, airports, hospitals), achieving reliable multi-face detection and real-time response.

➔ Achievements

- Published research "**Automatic E-Challan Generating System for not Wearing Helmet**", IJSERM 2023, DOI: 10.55041/IJSREM17927.

- Founded and managed **Tech Beetle,** a tech media page sharing innovation, and tech insights.

- Successfully completed the **Microsoft Future Ready Azure Internship Program**.