Banudeep Reddy Gade

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EDUCATION

- **George Mason University** — Fairfax, VA
  Master of Science in Computer Science — August 2022 – May 2025
- **Visvesvaraya National Institute of Technology** — Nagpur, India
  Bachelor of Technology in Computer Science — July 2018 – April 2022

WORK EXPERIENCE

- **George Mason University** — Fairfax, VA
  Graduate Research Assistant — August 2024 - May 2025
  - Developed web scraping tools using Python and Selenium, incorporating threading to enhance performance and collect over 1 million data points for improved statistical analysis quality.
  - Designed and managed an experimental website integrating GPT to conduct over 500 pre and post-treatment surveys, significantly improving experimental accuracy and insight generation.
  - Collaborated on 5+ research projects, significantly enhancing data analysis capabilities and integrating advanced AI technologies.

- **Persistent Systems Limited** — Hyderabad, India
  Software Engineer — June 2022 - July 2023
  - Designed and implemented stored procedures and custom SQL queries for migrating data from client databases to Google Cloud Platform's BigQuery using DBT Cloud, handling over 50 client databases.
  - Developed Python scripts to automate the verification of migrated data, enhancing data integrity and reducing manual checking by 40%.
  - Prepared and delivered comprehensive reports and provided recommendations that improved processes and utilization of technical tools across projects.

- **Vsoft Technologies Pvt Ltd** — Hyderabad, India
  Software Engineer Intern — June 2020 - July 2020
  - Developed a data extraction project utilizing OpenCV and Python to process over 1,000 nationally issued identification cards.
  - Implemented validation algorithms to verify the accuracy of extracted data, achieving a validation success rate of over 95%.

PROJECTS

- **University Campus Experience Survey Platform:**
  - Full-stack Web Application Development: Developed a full-stack web app with Angular, TypeScript, and Spring Boot for campus surveys, boosting participation by 35%. Implemented secure authentication API, reducing unauthorized access by 40%. Enhanced data retrieval speeds by 30% with MySQL and increased test coverage by 50%.
  - Deployment and Scalability: Configured and deployed the application on Amazon S3 using Docker and Kubernetes, ensuring scalability and optimal resource utilization, reducing deployment time by 30%. Delivered an interactive user experience that increased user satisfaction by 40%. Managed the project in an Agile environment, using Git for version control, resulting in a 25% improvement in code management efficiency.

- **ASL Translator:**
  - Built a real-time ASL recognition system using computer vision and a CNN-LSTM model in PyTorch and OpenCV, achieving 94%+ accuracy on alphabet classification with live video inference.
  - Implemented preprocessing (frame extraction, padding, augmentation), and enhanced performance using hybrid optimizers and self-attention for improved temporal modeling.

- **Emotion Detection:**
  - Utilized the VGG16 convolutional neural network, training the model with the collected data to achieve a detection accuracy of over 95%. This high performance demonstrates the model's reliability in real-world scenarios.

TECHNICAL SKILLS

- **Programming Languages:** Python, JavaScript, TypeScript, HTML, CSS, C, C++, Java, SQL
- **Web Technologies:** React, Angular, Vue, Redux, Spring MVC, Node.js, Express.js, FastAPI, Postman, MySQL, MongoDB
- **Tools and Frameworks:** Spring Boot, Jenkins, Git, JIRA, AWS, CI/CD Pipeline, Docker, Kubernetes
- **Cloud & DevOps:** AWS, Docker, Kubernetes, Git