ASHUTOSH ZAWAR

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EDUCATION

Master's in Computer Science, University of North Carolina at Charlotte, NC *(GPA: 3.6)* *Aug '23 – May '25*
Coursework: Network-based Application Development, Database Systems, Algorithm & Data Structures, Intelligent Systems, Computer Communications and Networks, Data Mining, Visual Analytics, Survey of Programming Languages

B.E in Computer Science, Vishwakarma Institute of Technology, Pune, India *(GPA: 3.4)* *Aug '19 – May '23*
Coursework: Object Oriented Programming (OOP), Data Science, Artificial Intelligence, Machine Learning, Operating Systems

WORK EXPERIENCE

Graduate Research Assistant | University of North Carolina at Charlotte, NC *[ProQuest]* *Mar '24 – Aug '24*

- **Accelerated research productivity by 25%** as measured by data processing pipeline throughput and analysis completion time, by engineering real-time TCP/IP socket connections between Unity VR environments and biometric devices (Empatica, Biopac)
- **Enhanced data analysis capabilities for 60+ participant studies** as measured by successful insights extraction and stakeholder presentation completion, by implementing advanced machine learning models and creating interactive visualizations
- **Improved data integrity by 40%** as measured by data quality assessment metrics and error reduction, by building robust Python pipelines to process complex biometric datasets from fNIRS, ECG, and RSP sensors with advanced cleaning algorithms
- **Pioneered VR-biometric integration platform** as measured by successful deployment in research applications and user immersion metrics, by designing Unity environment that dynamically adapts to real-time breath and heart rate data for stress management

Full Stack Devloper | Ortigan | Aurangabad, Maharashtra *April '22 – June '23*

- **Delivered 20+ scalable web applications** as measured by successful client adoption and 95%+ satisfaction rate, by developing modern B2B SaaS solutions specializing in digital platforms using JavaScript frameworks
- **Reduced development time by 40%** as measured by team productivity metrics and delivery timelines, by building production-ready dashboard and component libraries that standardized development processes across projects
- **Achieved 90+ Lighthouse performance scores** as measured by Google PageSpeed Insights across all web applications, by implementing performance optimization techniques and modern development practices
- **Orchestrated deployment of applications** as measured by 99%+ uptime and zero critical failures, by implementing CI/CD pipelines and cloud platform integrations for scalable infrastructure

Data Science and Software Intern | BookBySlot *Nov '21 – Jan '22*

- Boosted backend system performance by 30%, by optimizing SQL queries and automating key reporting tasks. Expanded listings by 25%, by conducting Python-based market analysis and integrating social media for outreach
- Established connections with 20+ clients as measured by successful partnership negotiations and revenue pipeline growth, by performing targeted data analysis to identify high-value prospects

SKILLS

- **Programming Languages:** JAVA, Python, C, C++, JavaScript
- **Libraries:** Keras, NumPy, Pandas, Matplotlib, TensorFlow, MlFlow, Scikit-learn, Sklearn, Computer Vision (OpenCV), PyTorch
- **Cloud and Front-End Technologies:** AWS, HTML, CSS, Vue.js, Nuxt.js, Bootstrap, Angular, React, Tableau, PowerBI
- **Back-End Technologies:** Node.js, MongoDB, MySQL, SQL, PostgreSQL, Django, Flask, NoSQL, REST API, Apache Airflow, OpenAI, Snowflake, Software Development Life Cycle (SDLC), CI/CD
- **Developer Tools/Version Control:** GitHub, Git, Jupyter Notebooks, VS Code, Google Colab, Docker, Kubernetes, API Integration

PROJECTS

AI-Powered Automated Data Engineering Assistant (ADEA) *[Tech: OpenAI, Aws, Kubernetes][GitHub]* *Feb '25 – Mar '25*

- **Achieved 95% reliability in production environments** as measured by system uptime monitoring and error rate analysis, by developing enterprise-grade AI solution combining Isolation Forest ML algorithms with NLP for data pipeline anomaly detection
- **Maintained 99.9% system uptime** as measured by successful handling of 2000+ daily queries and zero service interruptions, by deploying scalable architecture on AWS Lambda with Docker/Kubernetes orchestration and Redis caching optimization
- **Reduced debugging time by 60%** as measured by developer productivity metrics and issue resolution speed, by implementing real-time monitoring with Prometheus/Grafana and ChatGPT conversational interface for automated troubleshooting

MERN Stack Project *[Tech: JavaScript, React, Node.js, Chart.js, Express.js] [GitHub]* *Oct '23 – Dec '23*

- Developed a secure financial application as measured by successful adoption by 200+ users, by creating a responsive React.js UI with Express.js middleware for RESTful APIs and JWT/bcrypt authentication
- Increased user engagement by 35% as measured by active session metrics, by implementing interactive Chart.js dashboards and designing a custom API layer with React Toastify notifications

Semiconductor Wafer Defect Detection Using Deep Learning *[Tech: Python, Yolo, OpenCV NumPy]* *Feb '23 – May '23*

- Improved semiconductor manufacturing quality control as measured by 96% detection accuracy, by implementing advanced YOLO v8 and v5 models for automated defect detection
- Reduced manufacturing costs by 25% as measured by production yield improvements, by developing real-time micro-defect detection systems using Python, TensorFlow, and OpenCV

ACHIEVEMENTS and CERTIFICATIONS

Paper Publication of Semiconductor Wafer Defect Detection Using Deep Learning *May '23*

- Published in HTL Journal (High Technology Letters) Volume 29, Issue 5 | Impact Factor: 2.7

Google Data Analytics Certificate *[Link]* *Feb '24*