

Ankita Vilas Pimpalkar

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Education

- M.S. in Computer Science**, George Washington University – Washington, D.C. Aug 2024 – Present
- **Relevant Coursework:** Software Engineering, Design and Analysis of Algorithms, Cloud Computing, Data Mining, Advanced Software Paradigms, Computer System Architecture, Neural Networks and Deep Learning, Machine Learning
 - Graduate Tuition Fellowship — Merit-based award for academic excellence and internship performance under Prof. Eric Dano.
- B.E. in Computer Science and Engineering**, Chandigarh University – India Aug 2016 – Aug 2020
- **Relevant Coursework:** Programming in Java and Python, Relational Database Management Systems, Big Data Analytics, Data Warehousing, Artificial Intelligence, Operating Systems

Technical & Professional Skills

- **Programming Languages:** Python, Java, PHP, JavaScript, SQL, PowerShell, HTML, CSS
- **Machine Learning & Data Science:** Pandas, NumPy, Matplotlib, Scikit-learn, TensorFlow, PyTorch, OpenCV, Isolation Forest, Random Forest, Support Vector Machine (SVM), Neural Networks, Principal Component Analysis (PCA), K-Means Clustering
- **Databases & Frameworks:** MySQL Workbench, MongoDB, CodeIgniter, Vue.js, REST APIs
- **Tools & Platforms:** GitHub, VS-Code, Figma, Streamlit, MQTT, AWS, CI/CD, SCCM, Microsoft Intune, UI Optimization
- **Core Competencies:** Problem Solving, Cross-Functional Collaboration, Strategic Planning, Adaptability

Experience

- Software Engineer (AI/ML)**, George Washington University – Washington, D.C., USA. Feb 2025 – Present
- Developed Python-based NLP applications for Raspberry Pi sensor systems, increasing data processing efficiency by **45%** and reducing false positives by **30%**.
 - Implemented AI-driven solutions using embedded systems and ML models for real-time decision-making across sensor networks, boosting automation efficiency by **30%**.
 - Integrated Siemens Model-Based Engineering tools with Prof. Eric Dano, improving system design consistency and reducing cross-team development errors by **25%**.
- Software Engineer (Full-Stack)**, Alternative Structure Group, Friends-Square, Go-Scale – India Aug 2022 – May 2024
- Built responsive fintech web applications for Friends-Square using CodeIgniter, PHP, HTML/CSS, and JavaScript, improving session time and user engagement by **45%** through frontend optimization and clean UI.
 - Developed user-facing features using Python, MySQL, and JavaScript, integrating frontend components with backend APIs to enhance UX and increase client retention by **35%**.
 - Led technical roadmap for Go-Scale, integrating new technologies and aligning frontend-backend architecture to shorten release cycles by **25%**, and accelerate MVP deployment.
- Software Engineer**, Cognizant Technology Solutions – Pune, India Jun 2021 – Jul 2022
- Deployed **100+** enterprise applications using PowerShell and SCCM with a **98%** success rate, serving over **10,000** users.
 - Automated installation of key tools (Adobe Acrobat, AutoCAD, Citrix Receiver), reducing setup time per device by **40%**.
 - Managed SQL databases with **10,000+** records, maintaining **80%** uptime and ensuring **100%** data accuracy across deployments.
- Software Engineer Intern**, Talent Anywhere Services – Pune, India Aug 2020 – Nov 2020
- Built a high-performance web platform using PHP, CodeIgniter, HTML/CSS with optimized UI rendering, reducing load time by **40%** and improving traffic by **20%**.
 - Implemented secure user authentication and content management system features, increasing platform security by **30%** and enhancing scalability by **25%**.

Projects

- Anomaly Detection System** | Python, Streamlit, Isolation Forest, MQTT, Raspberry Pi
- Designed and built a real-time dashboard using Isolation Forest to detect anomalies in Raspberry Pi sensor data.
 - Integrated MQTT to enable efficient data streaming across sensors, improving transmission performance by **40%**.
- Personal Voice Assistant** | Python, NLP, SpeechRecognition, REST APIs
- Developed a Python-based voice assistant with NLP to automate calendar scheduling, email sorting, and task execution.
 - Increased task efficiency by **35%** through integration of speech recognition and REST APIs.
- Handwritten Character Recognition** | TensorFlow, CNN, OpenCV, Python
- Trained a CNN using TensorFlow and OpenCV to recognize handwritten characters with **70%** accuracy.
 - Used data augmentation techniques to boost recognition performance by an additional **25%**.