Pooja Dulam

Full Stack Developer

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SUMMARY

Results-driven Software Engineer with 3+ years of experience in enterprise software development, specializing in cloud-native applications, automation, and full-stack development.
Proficient in Azure, and Google Cloud, with a proven track record of enhancing system reliability and deployment efficiency.
Skilled in developing machine learning solutions and implementing RPA automations that reduced manual effort by 70%.
Led key projects at Infosys, including software installation automation that reduced deployment time by 60% and a multilingual printer installation application that improved user satisfaction by 40%.
Recently earned an MS in Computer Science from the University of Georgia (Dec 2024), combining advanced research in machine learning and cloud computing with hands-on industry experience in Agile environments.

WORK EXPERIENCE

Software Development Engineer, Infosys, Hyderabad, India **Aug 2019 — Apr 2022**

- Led development initiatives within Agile/Scrum teams, participating in daily stand-ups, sprint planning, and retrospectives while maintaining a consistent velocity across 2-week sprints. . Architected and implemented enterprise-scale solutions using Azure cloud services, .NET Core(C#), UiPath RPA, PowerShell automation, and Microsoft Graph APIs, resulting in successful digital transformation across multiple business domains.
- Developed and maintained CI/CD pipelines using Azure DevOps, implementing automated testing and deployment strategies that reduced deployment time by 60% and improved code quality through automated code reviews and testing.
- Created a multilingual printer installation application using .NET Core and Windows Forms, incorporating clean architecture principles and SOLID design patterns, resulting in 40% improved user satisfaction and 30% reduction in support tickets.
- Engineered robust RPA solutions using UiPath and ServiceNow Flow Designer to automate business processes, including automated ticket resolution and database maintenance, achieving 50% reduction in manual effort and 95% process accuracy.
- Implemented secure coding practices and security controls following company guidelines, conducting regular security audits and vulnerability assessments to ensure application security compliance.
- Utilized version control (Git) and implemented branching strategies while maintaining comprehensive documentation for knowledge sharing and project tracking.
- Collaborated with cross-functional teams in an Agile environment to gather requirements, create technical specifications, and deliver production-ready code meeting strict SLAs and quality standards.
- Mentored junior developers in best practices for code review, unit testing, and debugging, while actively participating in architectural decisions and technology selection for new projects.

EDUCATION

University of Georgia, **Athens, United States** - *M.S., Computer Science - (GPA: 3.8/4.0)* **Dec 2024**
Software Engineering • Algorithms • Distributed Computing Systems • Secure Programming(Rust) • Database Management • Data Mining • Advanced Topics in Cloud Computing • Machine Learning

ACHIEVEMENTS

HackWithInfy, Infosys **Jan 2019**
Placed among the top 300 at a coding hackathon held by Infosys.

INFOSYS PROJECTS

Software Installation Automation

- Automated software installation processes by integrating ServiceNow Flow Designer with Microsoft Graph APIs and Azure Intune, streamlining workflows and reducing deployment times by 60%.
- Developed reusable workflows and modular components to support future automation efforts, ensuring scalability and maintainability.
- Collaborated with cross-functional teams to align automation solutions with organizational goals, improving overall efficiency in software deployment.

Printer Installation Application

- Designed, developed, and deployed a Windows Forms application to enable users to search and install network printers dynamically, reducing printer setup time by 40%.
- Integrated the application with a centralized data source containing printer details, ensuring real-time updates and seamless operations across 13 languages.
- Implemented robust error-handling and logging mechanisms to enhance application reliability and ease of troubleshooting.

Process Automations Development

- Developed comprehensive RPAs to auto-resolve over 70% of ServiceNow requests, including Active Directory operations (file share access management), Microsoft Exchange operations (Distribution List and Shared Mailbox creation/modifications), reducing resolution time and improving user satisfaction.

- Engineered automation solutions for routine database server maintenance tasks, including backups, performance optimizations, and health checks using PowerShell and Python scripts, increasing system up time by 25%.
- Created modular, reusable automation components to handle diverse IT service requests, streamlining operational workflows and enabling faster response to business requirements.
- Conducted extensive testing and implemented best practices to ensure robust and error-free automation, minimizing production downtime.

Weather Data Analysis with Serverless Cloud Computing

- Designed and deployed a serverless weather prediction system using Google Cloud Functions, achieving 99.92% accuracy with an LSTM model for sequential weather data analysis.
- Preprocessed a large Kaggle weather dataset, leveraging Google Cloud Storage for data storage and retrieval. Performed advanced data cleaning, one-hot encoding for categorical variables, and feature engineering to prepare the dataset for model training.
- Developed and compared four models (Logistic Regression, Random Forest, SVM, and LSTM) for binary classification (rain/snow), optimizing for prediction accuracy, latency, and memory utilization. The LSTM model achieved 99.92% accuracy, while Random Forest achieved 99.87% accuracy with the lowest latency (81 ms).
- Engineered a cost-efficient solution with a total project cost of 8-10$, utilizing Google Cloud's pay-as-you-go model. Experimented with Vertex AI as an alternative but found it to be significantly more expensive for the same task.
- Implemented HTTP-triggered workflows for model training and real-time predictions, using Google Cloud CLI and Postman for testing and debugging. Trained models were saved in pickle format to Cloud Storage, and predictions were made based on user input (JSON payload) with minimal latency (81 ms).
- Documented key performance metrics, including execution time, memory usage, and prediction accuracy, providing insights into the trade-offs between serverless computing and traditional cloud-based ML platforms.

Restaurant Management System

- Designed and developed a full-stack Django web application for efficient restaurant operations, incorporating user authentication and role-based access.
- Built an interactive menu management interface with dynamic inventory tracking and automated alerts using JavaScript and AJAX.
- Implemented RESTful APIs and MVC architecture to handle concurrent user requests and database operations.
- Utilized Docker for containerization and deployed the application on AWS EC2, demonstrating cloud deployment skills.

Portfolio Analysis Tool

- Created a Python-based machine learning solution to analyze stock market data using unsupervised learning techniques.
- Successfully implemented and compared three clustering algorithms: Agglomerative Hierarchical, Affinity Propagation, and Spectral clustering.
- Developed data preprocessing pipeline to handle historical stock data and calculate relevant financial metrics.
- Built interactive visualizations using Plotly to effectively communicate clustering results and portfolio insights.
- Recognized with top marks for innovative approach to portfolio optimization and thorough algorithm comparison analysis.

Zeroth-order Optimizer for Large-Scale Models

- In-depth research on zeroth-order optimization (ZO) methods was conducted, focusing on the memory-efficient zeroth-order optimizer (MeZO), a derivative-free optimization technique for fine-tuning large-scale language models.
- Implemented and evaluated MeZO on benchmark NLP datasets (SST-2, SNLI) using ROBERTa-large, achieving competitive performance while reducing memory usage by 50% compared to traditional backpropagation.
- Designed experiments to compare MeZO with LoRA (Low-Rank Adaptation), demonstrating MeZO's ability to achieve comparable accuracy with significantly lower memory overhead.
- Developed custom modifications to handle noisy gradient estimates and optimize high-dimensional functions, leveraging Simultaneous Perturbation Stochastic Approximation (SPSA) for gradient approximation.
- Documented findings in a comprehensive research report, highlighting MeZO's scalability and efficiency for memory-constrained environments, with potential applications in large-scale model fine-tuning.

Movie Booking Application

- Led a team of 4 to develop a full-stack cinema booking application as part of the Software Engineering course.
- Engineered the front-end using Bootstrap and JavaScript to create an intuitive ticket booking experience with seat selection.
- Designed and implemented a Django-based backend with optimized database queries and proper transaction management.
- Integrated email notifications for booking confirmations and basic payment processing functionality.

SKILLS

Programming Languages	:	Python, C#, Java, JavaScript, PowerShell, SQL, HTML, CSS
Frameworks & Libraries	:	Django, .NET Core, Windows Forms, Bootstrap, PyTorch
Databases	:	PostgreSQL, MongoDB
IT Service Management & Automation	:	ServiceNow ITSM, UiPath, Selenium
Cloud & DevOps Tools	:	Microsoft Azure, Azure DevOps, Google Cloud (Functions, Storage, CLI), Docker, CI/CD, Git, Microsoft Graph APIs, Postman