Dixit B. Patel

Software Engineer/Developer | Ph.D. (CSE)

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SUMMARY

Experienced Software Engineer with a robust background in software engineering, development, and research. Proven expertise in crafting and optimizing code for peak efficiency, performance, security, and scalability. Recognized for leading and driving innovation through research-driven tech projects, consistently delivering exceptional results. Demonstrates strong leadership and collaborative skills, guiding teams to achieve strategic objectives and enhance customer outcomes. Adept at leveraging research to inform development practices and solutions, while fostering a culture of excellence and commitment. Eager to adapt and excel in dynamic, collaborative environments to deliver high-quality tech solutions and inspire teams toward success.

TECHNICAL SKILLS

Languages: Python, C#, Java, SQL, HTML, CSS, JavaScript

Databases: MySQL, PostgreSQL

Version Control/Collaboration: Git, GitHub

Framework/Cloud: Django, AWS

IDEs: VS Code, PyCharm, Spyder, Visual Studio, Android Studio

Tools and Technology: JSON, Unit Tests, Jupyter Notebook, Anaconda, Python Libraries (NumPy, Pandas, Matplotlib, etc.), Agile, SDLC, Mobile/Web Development

Operating Systems/CLI: Windows, Linux, MacOS

Additional Skills: Back-end Development, Front-end Development, Object-Oriented Design and Analysis, Application Development, Data Structures and Algorithms, Algorithm Design and Analysis, Cloud Computing, Artificial Intelligence, Database Management Systems, and Data Analysis/Analytics

EXPERIENCE

Fabricators – Software Engineer, *Chattanooga, TN, USA* *April 2023 – Present*

- Engineered strategic code enhancements, introducing advanced data structures and algorithms that boosted execution efficiency by 33%.
- Orchestrated the optimization of manufacturing operations through innovative Python-based solutions, enhancing productivity and operational efficiency.
- Employed proficiency in Python, JSON, MySQL, Git, and back-end development, pivotal in advancing team capabilities and technological innovation.
- Ensured adherence to rigorous quality standards throughout the software development lifecycle, conducting comprehensive peer code reviews.
- Leveraged Linux-CLI for streamlined system administration and managed code repositories using GitHub, ensuring seamless integration and collaboration across cross-functional teams.
- Contributed to technical guidance to team members, fostering a collaborative and high-performance work environment.

Wright State University – *Graduate Research Assistant, Dayton, OH, USA* *Dec 2018 – Dec 2022*

- Led research and development of mobile healthcare applications, leveraging Python and C# to advance care delivery and health equity.
- Delivered products that exceeded client expectations, contributing to securing a $1M grant for the next phase of the project.
- Designed and implemented comprehensive unit test cases, ensuring rigorous testing and validation of software functionalities to deliver robust and reliable applications.

- Employed expertise with Python, C#, GitHub, Back-End Development, and Database Management Systems (DBMS), including MySQL, contributing to the technological prowess of the team.
- Managed team meetings and client calls, ensuring alignment with project objectives and exceeding client satisfaction with delivered products.
- Utilized efficient Data Structures and Algorithms to deliver innovative software solutions, significantly reducing downtime and increasing application output, demonstrating a skillful approach to software development for optimal performance.

L&T Technology Services – *Software Engineer, Navi Mumbai, MH, India* *June 2016 – June 2018*

- Contributed to the design, development, and delivery of customized software solutions tailored to specific client needs, utilizing a dynamic Python tech stack.
- Played a key role in developing features for client software solutions, ensuring alignment with project goals and enhancing overall product functionality.
- Contributed to the design and development of an AI model-based proof-of-concept (POC) for product quality control and leveraging advanced Python libraries to enhance data analysis and analytical tasks for efficient processing.
- Developed, tested, and validated the computer vision-based AI model, significantly enhancing overall product quality and defect detection accuracy.
- Played a key role in developing features for client software solutions, ensuring alignment with project goals and enhancing overall product functionality.

EDUCATION

Doctor of Philosophy (Ph.D.) | Wright State University | 2019 - 2022
Degree: *Computer Science and Engineering*
GPA: *3.92/4.0*

Master of Science (M.S.) | Wright State University | 2018 - 2022
Degree: *Computer Science*
GPA: *3.92/4.0*

Bachelor of Engineering (B.S.) | Gujarat Technological University | 2011 - 2015
Degree: *Electronics and Communication Engineering*
GPA: *3.52/4.0*

ACHIEVEMENTS

- Honored and awarded for outstanding project completion during the tenure at L&T Technology Services.
- Honored with fellowship for outstanding research contributions at Wright State University.
- Honored and awarded for outstanding research publication during the tenure at Wright State University.

RECOMMENDATIONS

- Please refer to the Recommendations section on my LinkedIn Profile.

PEER-REVIEWED RESEARCH PUBLICATIONS

- Please refer to the publications listed on my Google Scholar Profile.
- Please refer to the publications listed on my ResearchGate Profile.

PROFESSIONAL VALUES AND ETHICS

- ***Commitment:*** Persistently work towards achieving project goals.
- ***Collaboration:*** Promote teamwork to achieve the best results.
- ***Integrity:*** Uphold honesty and ethical standards in all actions.
- ***Innovation:*** Embrace new technologies and methods for continuous improvement.
- ***Customer Focus:*** Prioritize customer needs and satisfaction.
- ***Adaptability:*** Stay flexible and resilient amid changing priorities.

- ***Ownership:*** Ensure reliability by taking full responsibility for tasks and outcomes.
- ***Empathy and Compassion:*** Foster team understanding through empathetic communication.

PRIMARY ACADEMIC PROJECTS

1. **Flexible and Efficient Algorithm for the Block World Problem**
   Course: Foundation of Artificial Intelligence (CS 6850)
   Technologies: Python, Tkinter, PyCharm
   Developed an algorithm to solve the Block World Problem, optimizing performance and flexibility for various problem scenarios.

2. **Detection of Statistical Texture Patterns in Color Images**
   Course: Computer Vision (CEG 7550)
   Technologies: Python, Spyder
   Implemented methods for analyzing and detecting texture patterns in color images, enhancing image classification accuracy.

3. **Leveraging Natural Language Processing and Machine Learning to Study Public Perception Towards COVID-19 Vaccine**
   Course: Machine Learning (CS 7830)
   Technologies: Python, Jupyter Notebook [Conference Paper Published]
   Analyzed public sentiment towards COVID-19 vaccines using NLP and machine learning models to assess societal trends and attitudes.

4. **Generative Adversarial Network (GAN) Model for MNIST Dataset**
   Course: Deep Learning (CS 7900)
   Technologies: Python, PyCharm
   Developed and trained a GAN to generate similar but unseen data from the MNIST dataset, demonstrating proficiency in unsupervised learning models.

5. **Prototype Development for Business Wait Time Tracker Web App**
   Course: Distributed Computing (CEG 7370)
   Technologies: HTML, CSS, JavaScript
   Contributed to the creation of a business wait time tracker web app prototype, implementing front-end development for real-time user interaction.

6. **Cloud Computing for Large-Scale Data-Intensive Problems**
   Course: Cloud Computing (CEG 7380)
   Technologies: Python, AWS, Docker, Hadoop, S3, EC2, Linux OS
   a) Utilized cloud computing platforms (AWS) to solve large-scale data-intensive problems.
   b) Implemented parallel processing methods (MapReduce) for efficient large-scale data processing in a cloud environment.

7. **Analysis of External Merge Sort for Top-K Queries: Eager Input Filtering Guided by Histograms**
   Course: Advanced Database Management Systems (CS 7700)
   Conducted in-depth analysis of external merge sort algorithms for efficiently processing large datasets and implementing top-K queries.