Dixit B. Patel [Ph.D.]

Software Engineer/Developer

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GitHub Profile | Portfolio

SUMMARY

Experienced Software Engineer *with a strong foundation in* ***software engineering, development, optimization, and research-driven solutions****.* ***Proven expertise*** *in designing and implementing* ***high-performance, scalable, and secure systems*** *while ensuring* ***seamless integration*** *across platforms.* ***Recognized for driving innovation*** *through the application of research and innovative methodologies* ***to deliver cutting-edge technology solutions*** *that exceed* ***business and customer expectations.***

With a ***strong leadership and technical background****, adept at* ***mentoring and guiding teams toward achieving key objectives****, fostering a culture of* ***collaboration, excellence, and continuous improvement****. Highly skilled in leveraging* ***technology-driven insights*** *to inform* ***development practices, optimizing processes, and solving complex technical challenges****. Passionate about* ***thriving in fast-paced, dynamic environments and committed to delivering high-quality, impactful software solutions*** *that drive organizational success.*

TECHNICAL SKILLS

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

Databases: MySQL, PostgreSQL, NoSQL (Dynamo DB and Mongo DB)

Version Control/Collaboration: Git, GitHub

Framework/Cloud: Django, AWS (EC2, S3)

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

Tools/ Technology: JSON, Unit Tests, Jupyter Notebook, Anaconda, Python Libraries (NumPy, Pandas, Matplotlib, etc.), Agile, SDLC, CI/CD, Docker, Hadoop

Operating Systems/CLI: Windows, Linux, MacOS

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

EXPERIENCE

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

- Contributed to Product Architecture and Distributed System Design, focusing on scalability, performance, availability, and security, ensuring robust and future-proof solutions that support high-demand environments with utilizing Cloud based technologies.
- Engineered strategic code enhancements, introducing advanced data structures and algorithms that improved execution efficiency by 33%, driving significant performance gains.
- Contributed to API development with a focus on secure coding practices and robust RESTful API security measures with authentication and authorization.
- Employed proficiency in Python, JSON, SQL/NoSQL, Git, Back-end development, and Cloud based technologies significantly advancing team capabilities and driving technological innovation across projects with Agile development methodology.
- Optimized product focused solution through innovative Python-based solutions, increasing productivity and operational efficiency across key processes.
- Ensured adherence to rigorous quality standards throughout the software development lifecycle by conducting comprehensive peer code reviews, identifying areas for improvement, and enforcing best practices.
- Managing code repositories with GitHub to ensure seamless integration and collaboration within cross-functional teams.

- Provided technical guidance and mentorship to team members, fostering a collaborative and high-performance work environment that enhanced overall productivity and innovation.

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

- Led research and development of software applications, leveraging Python and C# to support advanced care delivery operations.
- Applied advanced engineering practices (Python, C#, GitHub, MySQL, JupyterNotebook) to optimize backend performance and reduce 15% downtime, enhancing system efficiency and user experience.
- Employed expertise with Python, C#, GitHub, Back-End Development, RESTful API, and Database Management Systems (DBMS), including SQL and NoSQL, contributing to the technological prowess of the team.
- Led cross-functional research teams, ensuring alignment with project goals and fostering clear communication with funding agencies or clients to drive success.
- Utilized data structures and algorithms to improve system performance, enhance application responsiveness and service delivery.
- Secured $1M grant funding for a major digital health initiative by delivering high-impact solutions that exceeded client expectations, improving healthcare professionals' training and patient care experiences.
- Honored and awarded for Outstanding Research Publication during the tenure at Wright State University.
- Received competitive fellowship and financial assistance for research projects, supporting the scaling and success of research and development-focused initiatives.

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

- Designed and developed customized software solutions for clients using Python tech-stack, improving system efficiency by 20% and reducing client processing times by 15%.
- Developed features for client software solutions, directly contributing to product functionality and ensuring alignment with project objectives and client needs.
- Contributed to the creation of an AI model-based proof-of-concept (POC) for product quality control, using advanced Python libraries to improve data analysis and optimize processing efficiency.
- Built and validated a computer vision-based AI model, increasing defect detection accuracy by 91% and reducing manual inspection time by 50%, leading to improved product quality and operational savings.
- Collaborated with cross-functional teams to integrate new features, ensuring seamless delivery of high-quality software solutions that met project specifications.
- Recognized and awarded for exceptional performance in delivering high-impact project at L&T Technology Services, demonstrating excellence in project completion and client satisfaction.

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.

- Awarded financial scholarships to pursue Doctor of Philosophy in Computer Science and Engineering by 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.