MEHWISH HANIF

FULL STACK SOFTWARE ENGINEER

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Driven Software Engineer with a Master's in Computer Science, focused on building scalable web applications. Leverages a strong foundation in data structures, algorithms, and Agile methodologies to deliver high-quality, efficient solutions across the full stack.

Technical Skills: JavaScript | Python | React | Node | Express | Flask | Redux | SQL | PostgreSQL | Git | Azure DevOps | AWS S3

Relevant Skills: Agile Methodologies | Object Oriented Design | Web Application Development

EDUCATION

App Academy \\ *Full Stack Web Developmen*t | San Francisco, CA **03/2025**
Saarland University \\ *Masters of Science in Computer Science* | Saarbrucken, Germany **09/2018**
National University of Computer and Emerging Sciences \\ *Bachelors of Science in Computer Science* | Lahore, Pakistan **05/2013**

WORK EXPERIENCE

R&D SOFTWARE ENGINEER | *Paragon Semvox GmbH* | Saarbrucken, Germany **Dec 2017 – Sep 2018**
- Implemented an unsupervised learning approach in a constrained data environment, leveraging word embeddings to enhance semantic understanding and enable more accurate clustering of short text, achieving a 27% improvement in data retrieval efficiency over an existing supervised model.
- Implemented the model using OOP principles in Java, employing efficient data structures, algorithmic design, and multithreading to enhance processing speed and accuracy.

R&D SOFTWARE ENGINEER | *ZeMA GmbH* | Saarbrucken, Germany **Nov 2016 – Nov 2017**
- Optimized real-time data communication on the assembly line by replacing inefficient HTTP polling with WebSockets in Java, reducing network overhead and cutting data transmission time by 50%.
- Designed dynamic views for the UI of laser projector with Angular directives to update the interface instantly based on live feedback, improving the precision and efficiency of the assembly line process.

SOFTWARE ENGINEER | *Xavor* | Lahore, Pakistan **June 2013 – July 2014**
- Engineered and launched the Assist+ navigation add-on for Oracle Agile PLM, utilizing full-stack development (Java, jQuery, JavaScript, CSS, HTML, SQL) to enhance system navigation and improve functionality and user experience.
- Ensured 100% on-time delivery with minimal updates, maintaining code quality, resolving bugs, and optimizing performance to guarantee system reliability and software efficiency.

PROJECT EXPERIENCE

TRIPWISE | React | Redux | Python | Flask | PostgreSQL | SQLAlchemy | SQlite3 | AWS S3 | Vite **[GitHub](#) \\ [Live](#)**
- Resolved complex temporal data inconsistencies by implementing a UTC-centric architecture, ensuring accurate date and time representation across diverse user time zones, eliminating potential scheduling conflicts and data discrepancies.
- Optimized application performance by architecting a normalized Redux state, achieving $O(1)$ time complexity for user trip and activity retrieval through memoized selectors, drastically reducing backend request load and accelerating data access.
- Engineered a comprehensive data loading strategy, pre-fetching all trips and activities to minimize server round trips, significantly improving application responsiveness and providing a fluid user experience during data-intensive operations.

MUSEIC | Python | Flask | React | Redux | AWS S3 | PostgreSQL | SQLAlchemy | SQlite3 | Vite **[GitHub](#) \\ [Live](#)**
- Implemented a scalable media storage solution utilizing AWS S3, enabling seamless uploading and retrieval of user-generated songs and songs artwork, ensuring robust and efficient content delivery.
- Streamlined user experience by employing eager loading of personalized music data, minimizing latency and providing immediate access to the user's music library upon login.
- Maximized application performance through the strategic application of memoized selectors, facilitating rapid retrieval of content with optimized efficiency, reducing computational overhead.
- Architected a user-centric data retrieval system that pre-caches personalized music identifiers, significantly diminishing the need for repetitive server calls and fostering a responsive and uninterrupted music playback experience.