



# RAZEEN MUHAJIREEN

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## SOFTWARE ENGINEER

### Programming | Problem-Solving | Collaboration and Communication

Results-driven Software Engineer with a proven track record of leading successful transformations from prototypes to profitable commercial products. Expertise in IoT management systems, data analytics APIs, and scalable solutions. Skilled in optimizing data storage, implementing real-time monitoring, and integrating innovative technologies. Proficient in Python, Flask, FastAPI, Shell scripting, Elasticsearch, Docker, Kubernetes, and more. Strong leadership and technical abilities contributed to substantial market growth and increased customer base. Adept at data visualization, NLP, and machine learning. Committed to driving excellence through comprehensive problem-solving and efficient software development. Exceptional team player and effective communicator.

## WORK EXPERIENCE

### Content Management and Solutions

August 2021 – March 2023

#### Senior Software Engineer

Successfully led the transformation of a working prototype of a crypto miner management application into a profitable commercial product, catalyzing increased investments and a substantial influx of new customers, thereby significantly enhancing the company's growth and market presence. Through my dedicated leadership and technical expertise, I played a pivotal role in transforming the IoT management system into a robust, scalable, and highly functional application, contributing to the overall success of the project.

- **Implemented Scalability and Real-time Monitoring:** Collaborating closely with DevOps engineers, successfully scaled the IoT management system to handle up to 30,000 miners. Introduced a robust pub/sub architecture for real-time monitoring, ensuring efficient data processing.
- **Optimized Data Storage and Management:** To handle large volumes of data, Designed an optimized data storage strategy. Utilized KeyDB for short-term data storage and PostgreSQL for long-term data storage, achieving efficient data retrieval and management.
- **Utilized TimescaleDB for Historical Data:** To efficiently store historical data, Implemented TimescaleDB for chunking and storage. This allowed for easy retrieval of historical information while maintaining database performance.
- **Comprehensive Miner Metrics Collection:** Successfully collected health and metrics data for each miner across different networks. By implementing secure SSH communication with miners, ensured sensitive credentials were stored safely.
- **Data Visualization and Reporting:** Designed and created comprehensive views that displayed both current and historical data, providing clear insights into the system's performance. Additionally, generated reports based on the health of miners to enable data-driven decision-making.
- **Enhanced User Interface and Control:** Implemented various functionalities in the user interface, enabling authorized users to activate, deactivate, put miners to sleep or work modes, and even reboot miners in response to specific health issues.
- **Multifaceted Login Authentication System:** Designed and integrated different login authentication profiles, catering to various user roles such as admin, network personnel, and plant operators. This enhanced security and ensured appropriate access to system features.
- **Inventory Management and Device Networking:** Introduced efficient inventory management, allowing easy tracking and networking of devices. Users could visualize the devices' locations through the rack and switch views, streamlining the device location process.
- **Advanced Miner Maintenance Tracking:** Developed a comprehensive system to record the repair history of each miner, along with tracking RMA and shipping information, facilitating smoother maintenance procedures.
- **Integration with Slack Notifications:** To ensure real-time awareness of important system events, Integrated Slack notifications, allowing stakeholders to stay informed about critical updates.
- **Hash rate Calculation and Analysis:** Designed algorithms to calculate daily, weekly, and monthly hash rates for each miner model, providing crucial performance insights for further optimization.
- **Microservices monitoring:** Effectively implemented Docker and Rancher for microservices, orchestrating a seamless pub/sub architecture that led to enhanced system performance and scalability. Proactively optimized memory utilization, diligently identifying and rectifying memory leaks, resulting in improved overall system stability and resource efficiency.

**RiverView Innovation Labs****September 2019 – August 2021****Data Analyst Engineer**

Developed and improved the capabilities of

- Successfully led the end-to-end design and implementation of a sales data analytics API application using Python and Flask, enabling real-time data insights for the sales team.
- Led the creation of a robust data pipeline, integrating HG insights with Elasticsearch via Logstash, and developed custom mapping and data modeling for efficient data storage and retrieval.
- Streamlined Elasticsearch queries, resulting in improved query performance and reduced processing time, enhancing the overall data analytics experience.
- Gathered and analyzed business requirements to develop a high-performance FastAPI application tailored to the specific needs of the Business Intelligence (BI) team, enabling them to access data seamlessly and efficiently.
- Empowered the marketing team to identify potential leads on LinkedIn by designing and implementing web crawlers and scrapers. Integrated the collected data with the Google Sheets API through lambda functions, facilitating easy data management.
- Leveraged natural language processing techniques to analyze and match people data, meeting diverse business requirements and providing valuable insights for decision-making.
- Designed and developed highly efficient data analytics APIs, enabling the retrieval and visualization of large datasets through Pandas, and presenting the results in interactive dashboards for easy interpretation and data-driven decision-making.

**Atlas Labs Pty Ltd****November 2017 – September 2019****Embedded Software Engineer****AmSoft Technologies****November 2016 – October 2017****Software and Electronics Engineer****EDUCATION**

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**Kwantlen Polytechnic University, Canada****PBACC in Technical Management and Services, Expected Graduation – April 2024****Sheffield Hallam University, United Kingdom****BEng (Hons.) in Electronics Engineering, 2016**

Best Overall Performer with a First Class Honours and GPA of 3.9

**CORE COMPETENCIES**

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- MYSQL | Oracle Database | Microsoft SQL Server | PostgreSQL | MongoDB | SQLite | Redis | KeyDB | Amazon Web Services (AWS) RDS | Elasticsearch
- Python | SQL | HTML | CSS | JavaScript | Flask | Django | Bootstrap | jQuery | Flask-RESTful | FastAPI | OAuth | Pandas | Numpy | Matplotlib | SciPy | Seaborn | Beautiful Soup | Selenium | Docker | Kubernetes | Rancher | Linux/Unix – Shell scripting | Command-line tools | system administration tasks | TensorFlow | OpenCV | scikit-learn | Keras | Natural Language Processing (NLP) | SpaCy | ELK stack - ingestion, maintenance, app monitoring | Azure data pipelines | SSIS | Git | GitHub | Bitbucket | SDLC – Agile methodology | Scrum framework | Mastery of Microsoft Office | Microsoft Power BI | Microsoft Excel | Tableau | Automation – Bash scripting, Python scripting

**REFERENCES**

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Available upon request