

MATEUS FRANCO E CUNHA

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EDUCATION

Queen Mary University of London

2023 - now

BSc Computer Science

University of Sao Paulo

2019 - Incomplete

Postgraduate Specialization in Structural Engineering

Maua Institute of Technology

2014 - 2018

BSc Civil Engineering

PROFESSIONAL EXPERIENCE

AWS — London, United Kingdom

Jun 2024 – Sep 2024

Cloud Migration CSM Intern

- **AWS Cloud Practitioner Certification:** Achieved certification, demonstrating strong foundational knowledge of cloud computing and AWS services, with a focus on cloud architecture, security, and cost management.
- **Developed Internal Social Media Platform:** Designed and developed a social media-style web application to enhance collaboration among AWS teams. The platform allows internal users to create posts detailing their project challenges, outcomes, and best practices, fostering a community of shared expertise and knowledge.
- **Technology Stack:** Utilized JavaScript, HTML, CSS, and Node.js for full-stack development. Managed data with MySQL and employed advanced data visualization libraries such as Chart.js, Plotly, and amCharts to present insights in an engaging manner.
- **Collaborative User-Centric Design:** Contributed to an iterative, user-focused design process, working closely with team members to enhance navigation and ensure the platform effectively met the needs of internal users.
- **Cloud Infrastructure and AI Integration:** Deployed the application on AWS EC2 and integrated AWS RDS for scalable database management. Enhanced the platform's search functionality using AWS Comprehend for AI-powered keyword generation, significantly improving user engagement and content discoverability.

Shopee — São Paulo, Brazil

Mar 2022 – Aug 2023

Data Analyst

- **Advanced Data Analysis:** Utilized SQL, Python, and Power BI to implement complex data analysis techniques, optimizing logistics routes for cost efficiency. Delivered actionable insights through real-time dashboards, supporting strategic decision-making within the operations department.
- **ETL Process Management:** Designed and maintained efficient ETL processes to ingest, normalize, and standardize data from various sources. Ensured data integrity and consistency across databases, enabling rapid data processing and analysis with updates every 15 minutes, improving decision-making speed and accuracy.
- **Automated Data Analysis:** Implemented automated data analysis workflows to track and identify issues related to routes, parcels, warehouses, and third-party logistics providers. Detected and addressed instances of mismanagement, misuse, misplacement, and delays in orders, streamlining logistics operations.
- **Real-Time Dashboards Development:** Developed and deployed live data dashboards that facilitated a data-driven approach to logistics. Integrated critical variables, resulting in a 0.12 percentage point reduction in lost and misplaced parcels month-over-month, enhancing operational oversight.
- **Global System Integration:** Collaborated with engineering teams to ensure seamless integration of global systems, improving operational efficiency and data coherence across the organization.

- **Web Application for Data Extraction:** Designed and developed a web application that streamlined data input and real-time extraction. This significantly reduced response times for the data analytics team, cutting request wait times from days to minutes or seconds through automated extraction by users, thus reducing the analysts' workload.
- **Software Solutions Integration:** Engineered software solutions to integrate the company's database with user geolocation features and advanced algorithms. This integration enabled precise user location tracking and generated actionable insights into customer behavior, enhancing strategic decision-making.
- **Customer Behavior Analysis:** Conducted detailed analyses of customer purchase trends, leading to the creation of a targeted redirection campaign. This initiative increased purchases at accredited commercial establishments by up to 13%, improving revenue streams and enabling more effective marketing to customers near selected businesses.
- **Daily-Time Dashboards:** Deployed dashboards with daily updates that provided comprehensive insights into financial performance across all company sectors. Enabled stakeholders to make data-driven decisions by tracking revenue fluctuations, detecting potential fraudulent card usage, and identifying high-potential users.
- **ETL Data Pipeline Engineering:** Developed and managed ETL data pipelines to standardize and integrate data from card payment network issuers into the company's AWS cloud storage. Ensured data consistency and accessibility for comprehensive analysis and reporting.

- **Online Portal Development:** Designed and implemented a portal for third-party companies like Nestlé and Sanofi to streamline data and file submissions. Enhanced data collection efficiency and integration with Azure cloud services and Snowflake, improving dataset creation for analysis.
- **ETL Process Optimization:** Developed and managed ETL processes to handle data ingestion, normalization, and standardization from diverse sources. Ensured high data integrity and consistency across databases, supporting reliable analysis.
- **Azure ETL Flows:** Configured and optimized ETL data flows on Azure to manage the transfer of data from online portals to Snowflake databases. Improved data transfer efficiency and overall system performance.
- **Data Standardization and Validation:** Applied data engineering practices to standardize and validate incoming data. Implemented checks to ensure all inputs and files adhered to required formats, cleaned data before integration, and enhanced overall data quality and consistency.

- **Customer Purchase Trends Analysis:** Executed comprehensive data analysis to track and interpret purchasing patterns in the grocery sector. Enabled targeted adjustments to marketing strategies, leading to increased sales and improved customer engagement.
- **Inventory Management Enhancement:** Utilized advanced analytics to streamline inventory processes, ensuring optimal product availability and minimizing stockout occurrences. Enhanced the efficiency of inventory management to better meet customer demand.
- **Product Trend Forecasting:** Refined forecasting algorithms to predict product trends with greater accuracy. Enabled proactive adjustments in inventory management, contributing to higher customer satisfaction and more strategic stock planning.
- **Financial Performance Dashboards:** Designed and implemented dynamic dashboards for financial reporting, including cash flow analysis. Delivered actionable insights that supported strategic decision-making and informed future investment decisions.

Structural Engineer

- **High-Rise Structure Design:** Developed detailed designs for concrete and steel core structures in high-rise buildings. Ensured compliance with stringent safety standards and regulations to enhance structural integrity and occupant safety. Utilized advanced engineering calculations to maintain structural efficiency and security.
- **Bridge Engineering:** Worked collaboratively on the design and analysis of high-span and traffic/pedestrian bridges. Applied sophisticated structural analysis techniques, including vibration mode analysis, to ensure user comfort and address the effects of wind loads.
- **Dynamic Load Analysis:** Leveraged advanced vibration theory to engineer structures that can withstand dynamic loads, including bridges, parking facilities, and buildings exposed to varying environmental conditions. Optimized structural stability and performance under fluctuating stresses.
- **Multidisciplinary Team Collaboration:** Joined multidisciplinary teams to calculate and analyze prestressed beams and bridge structures for large-scale projects. Ensured accurate structural design and integration by coordinating with various engineering and design specialists.
- **Project Collaboration:** Contributed significantly to project outcomes by closely coordinating with contractors to ensure structural designs met project specifications. Played a key role in the expansion of the Barueri Sewage Treatment Plant (STP), the largest facility of its kind in Latin America.

Outec Engineering — São Paulo, Brazil

Feb 2017 - Feb 2018

Structural Engineering Intern

- **Load and Stress Analysis:** Executed detailed calculations to evaluate loads, stresses, and deformations in structures, ensuring compliance with safety standards during construction and expansion phases. Applied precise analytical methods to maintain structural integrity.
- **Building Evaluation and Repair:** Conducted assessments of existing buildings to develop strategic repair and modification plans, successfully extending their lifespan by 10 years. Enhanced resource efficiency and reduced maintenance costs through effective planning.
- **Collaborative Design Development:** Partnered with architects to design structural elements that complemented the building's aesthetics. Provided expert recommendations on design adjustments to improve efficiency and material use, resulting in better integration and project outcomes.
- **Interdisciplinary Coordination:** Facilitated alignment between structural and architectural components, contributing to successful project execution through effective communication and coordination between engineering and design teams.

PROJECT & RESEARCH EXPERIENCE

Maua Institute of Technology — São Caetano do Sul, Brazil

Mar – Dec 2018

Tertiary treatment of sewage

- Conducted in-depth research on eutrophication levels in reservoirs across the metropolitan region of São Paulo in collaboration with the Environmental Company of the State of São Paulo.
- Leveraged statistical methods and programming techniques to analyze the variables influencing the costs of implementing tertiary treatment for domestic sewage. This comprehensive assessment aimed to determine the financial implications of extending sewage treatment across the entire metropolitan region of São Paulo, ultimately leading to the remediation of major rivers and water bodies in the area.
- Examined the trends and factors influencing water quality in reservoirs, particularly in relation to the phenomenon of eutrophication. Analyzed the impacts of this phenomenon on the quality of water supplied to the population.
- Achieved an impressive 95% accuracy rate in the collection and treatment of domestic effluents, amounting to a significant value of 2.27 billion US dollars from the metropolitan region.
- Effectively communicated the research findings by presenting them at a prestigious scientific exhibition: Eureka, an annual exposition hosted by the college.

Flood monitoring system

- Collaborated with the university and city's public administration to implement a comprehensive monitoring system for tracking variations in key parameters along "Ribeirão dos Meninos" (Boy's River), one of the city's major waterways.
- Conducted an extensive analysis to identify strategic locations for sensor installation, focusing on areas with high traffic and a history of flooding incidents. This meticulous approach ensured precise and reliable water level analysis and prediction.
- Collaboratively designed and developed a program interfacing with sensors to acquire crucial data—such as location and water level readings at 30-second intervals. This dynamic data visualization facilitated the establishment of secure water level thresholds. Subsequently, automated alerts were promptly sent to pertinent stakeholders, utilizing historical data to bolster informed decision-making.

Maua Institute of Technology — São Caetano do Sul, Brazil

July 2018

Stadium grandstand

- Conducted an in-depth analysis of the renovation projects for the Allianz Park Stadium in Sao Paulo, evaluating the suitability of the structural methods employed in the expansion of the grandstands.
- Utilized finite element software to meticulously design the grandstand, enabling a thorough assessment of dynamic loads arising from crowd movements. This ensured the structure's maximum material resistance.
- Performed rigorous assessments of the structure's vibration modes and displacements. This crucial step was taken to guarantee the comfort and safety of individuals, aligning with technical standards. These evaluations were especially critical following the increase in structural dimensions of pillars and reinforcement of pre-cast beams.

ADDITIONAL INFORMATION _____

Certifications:

AWS Certified Cloud Practitioner (July 2024)
Amazon Web Services (AWS)

Relevant Skills:

- Cloud Services:
 - AWS: EC2, RDS, S3, Comprehend, Athena, QuickSight
 - Other Cloud Platforms: Azure, Snowflake
- Programming Languages:
 - Python, Java, C++, SQL, JavaScript, Node.js, VBA
- Web Development:
 - Front-End: HTML, CSS
 - Back-End: Node.js, MySQL
 - Version Control: Git, GitHub
 - APIs: RESTful APIs
- Data Visualization:
 - Power BI, Streamlit, SAS, KNIME, QuickSight
- Software and Tools:
 - SAP2000, TQS, STRAP, Ftool, Visual Studio, DataGrip Microsoft Office (Excel, PowerPoint, Word)

Languages:

- Portuguese: Fluent – Native
- English: Proficient