Joao **Prado**

IT ENGINEER · MAINFRAME MODERNIZATION & CLOUD SOLUTIONS SPECIALIST

Rua Cicero Lazaro Ferreira Barbosa, 43, Campinas - São Paulo

(+55) 19993606538 | joaoprado@outlook.com.br | github.com/joaoprado96 | joaoprado96 | joaoprado96

Summary

Passionate and results-driven IT Engineer with over 3 years of experience bridging the gap between legacy mainframe systems and modern cloud technologies. Expertise in mainframe development (Assembler and COBOL), cloud infrastructure provisioning, DevOps practices, and full-stack development. Proven ability to lead digital transformation projects, automate complex processes, and implement scalable solutions in large enterprise environments.

Work Experience

Itaú Unibanco
São Paulo, Brazil

IT ENGINEERING ANALYST (MID-LEVEL)
Jul 2022 – Present

- Provisioned and managed a scalable AWS infrastructure, including EC2, Lambda, S3, RDS, Neptune, and associated Security Groups, IAM roles, and S3 bucket notifications, supporting complex data pipelines and high-availability applications.
- Automated cloud deployments using CI/CD pipelines integrated with GitHub Actions and managed through Terraform, ensuring rapid scalability, consistency, and seamless integration across multiple environments.
- Developed Python-based tools for automating the extraction and migration of mainframe data to AWS, securely facilitating data transfers to S3 via Private Link and enabling efficient, large-scale data handling.
- Built robust Python applications for real-time data processing and ingestion, integrating PostgreSQL and Amazon Neptune with efficient use of libraries like psycopg2 and gremlinpython to handle complex database operations and Gremlin queries.
- Designed and orchestrated ETL workflows using AWS Lambda, automating the ingestion, transformation, and processing of data from various sources, optimizing resource efficiency and enabling seamless data flow across cloud services.
- Enhanced mainframe modernization efforts by developing advanced Assembler modules and COBOL programs that allow direct integration with AWS APIs using the Web Client Toolkit, streamlining cloud transitions without requiring major rewrites of legacy code.
- Implemented Java applications with MVC design patterns to facilitate querying and analysis of data processed through AWS pipelines, ensuring persistent connections to Amazon Neptune and advanced monitoring capabilities, including centralized logging, real-time alerts, and performance metrics for enhanced system reliability.

Itaú Unibanco
São Paulo, Brazil

IT ENGINEERING ANALYST (JUNIOR)
Oct 2021 – Jul 2022

- Developed and maintained high-performance Assembler and COBOL applications, supporting critical mainframe transaction processing that serves as the backbone of the bank's core systems, ensuring stability and reliability in a highly sensitive transactional environment.
- Engineered robust solutions for IBM MQ communication, enhancing seamless system integration and secure data exchange across multiple platforms within the bank's mainframe ecosystem.
- Designed and implemented automated processes using Python and zOSMF, streamlining critical mainframe tasks such as Db2 table loading and VSAM file cleanup, which improved operational efficiency and minimized manual intervention.
- Built interactive graphical interfaces with REXX and Panels for log analysis, enabling faster troubleshooting and efficient monitoring of the mainframe environment, ensuring quick resolution of potential issues.
- Developed COBOL programs to simulate and validate HTTP requests, establishing secure and reliable communication between mainframe systems and cloud platforms, which facilitated smooth data exchanges and interoperability.
- Implemented rigorous testing, monitoring, and continuous support for critical transactional mainframe applications, proactively identifying and resolving issues to maintain the integrity and performance of the bank's central systems.
- Built an interactive Openshift application for executing user-submitted Python code, integrating Azure authentication and leveraging AI for script optimization, demonstrating versatility across mainframe and modern platforms.

Pirelli
Campinas, São Paulo, Brazil

PROJECT AND AUTOMATION ENGINEER
Feb 2021 – Oct 2021

- Designed and implemented advanced automation and electrical systems, including engineering panels and performing precise circuit sizing using AutoCAD Electrical, ensuring compliance with safety standards and optimal performance.
- Programmed PLCs (Siemens, Allen-Bradley) using Ladder Logic and Structured Text, achieving precise control over critical machinery operations, with a focus on improving system reliability and safety.
- Commissioned and integrated modern equipment, optimizing automated systems to enhance productivity, streamline processes, and reduce operational downtime.
- Led projects focused on the maintenance and performance optimization of critical machinery, implementing solutions to increase system efficiency and ensure the secure and stable operation of industrial equipment.
- Managed end-to-end project coordination, from concept to completion, effectively reducing lead times, improving operational reliability, and ensuring seamless integration of automated solutions.

Pirelli   *Campinas, São Paulo, Brazil*

ELECTRICAL ENGINEERING INTERN   *Jan 2019 – Dec 2020*

- Assisted in the design and implementation of automation systems for industrial manufacturing, using AutoCAD Electrical for schematics and layouts.
- Programmed and commissioned PLCs, including testing, troubleshooting, and system validation.
- Contributed to projects that increased production line efficiency and reduced downtime through automation solutions.
- Collaborated with multi-disciplinary teams to deliver projects on schedule, ensuring compliance with industry standards.

Certifications

2024	**Building Cloud Computing Solutions at Scale Specialization,** Duke University	*Remote*
2024	**Cloud Machine Learning Engineering and MLOps,** Duke University	*Remote*
2024	**Cloud Data Engineering,** Duke University	*Remote*
2024	**Cloud Virtualization, Containers, and APIs,** Duke University	*Remote*
2024	**Spark, Hadoop, and Snowflake for Data Engineering,** Duke University	*Remote*
2024	**Object-Oriented Programming in Python,** Duke University	*Remote*
2024	**Generative AI with Large Language Models,** Coursera	*Remote*
2023	**AWS Certified Cloud Practitioner,** Amazon Web Services (AWS)	*Remote*
2022	**Mainframe Specialist Certifications,** Interskill Learning	*Remote*

Technical Skills

Programming Languages	Python, Java, JavaScript, TypeScript, COBOL, Assembler, Node.js, REXX
Cloud Platforms & Services	Amazon Web Services (EC2, Lambda, ECS, S3, RDS, Neptune, VPC, PrivateLink e etc), Openshift
DevOps & Automation	CI/CD Pipelines, Docker, Kubernetes, Git, GitHub Actions, Terraform, Infrastructure as Code (IaC)
Data & Databases	PostgreSQL, Amazon RDS, Amazon Neptune, MongoDB, DB2 on z/OS, Data Modeling, ETL Pipelines
Web & Application Development	RESTful APIs, Node.js, Express, React, Django, Flask, Microservices Architecture
Scripting & Automation	Shell Scripting, JCL, zOSMF, Python Automation, REXX, Terraform Scripting
Big Data & Analytics	Spark, Hadoop, Snowflake, Pandas, psycopg2, gremlinpython, Data Processing & Transformation
Mainframe Systems	IBM Mainframe, z/OS, TSO/ISPF, IBM MQ, Mainframe Transaction Processing
Performance & Monitoring	Load Testing, Performance Tuning, JMeter, Centralized Logging, Real-Time Monitoring
Security & Compliance	IAM, Azure Authentication, SSL/TLS, Secure Data Transfer, Network Security, PrivateLink
Other Technologies	Azure DevOps, VMware, SAP ERP, AWS CDK, Open Policy Agent (OPA), Linux
Soft Skills	Problem-Solving, Team Collaboration, Communication, Agile Development
Languages	Portuguese (Native), English (Professional Proficiency)

Education

State University of Campinas   *Campinas, São Paulo, Brazil*

BACHELOR OF ENGINEERING IN ELECTRICAL AND ELECTRONIC ENGINEERING   *2016 – 2020*

- Relevant Coursework:
  - Fundamentals: Mathematics, Physics, Chemistry, Mechanics, Computer Science, Electricity, Material Resistance, Transport Phenomena.
  - General Studies: Administration, Humanities and Social Sciences, Law, Ethics, Economics, Environmental Sciences.
  - Professional Formation: Electric Circuits, Electrical Measurements, Electromagnetism, Electronics, Electrical Materials, Energy Conversion, Control Systems.
  - Specializations: Telecommunications and Telematics, Electric Power, Electronics, Microelectronics, Optoelectronics, Computer Engineering, Automation and Control, Biomedical Engineering.
- Projects: Participated in projects related to telecommunications, energy conversion, and biomedical engineering.

Key Highlights

INNOVATIVE PROBLEM-SOLVER

- Known for creative and out-of-the-box thinking, finding unique solutions to complex challenges and bridging traditional systems with modern technologies.
- Adept at identifying root causes of issues and implementing effective strategies that improve processes and enhance efficiency.

VERSATILE TECHNICAL EXPERT

- Skilled across a wide range of technologies, from cloud computing to mainframe systems, bringing a holistic approach to system integration and automation.
- Comfortable navigating both legacy and cutting-edge environments, seamlessly blending the old with the new to create cohesive solutions.

Leader in Automation & Efficiency

- Passionate about designing automated solutions that streamline operations, reduce manual effort, and enhance reliability.
- Experienced in building systems that are efficient, scalable, and easy to maintain, ensuring long-term sustainability.

Adaptable & Collaborative Team Player

- Thrives in dynamic environments, quickly adapting to new technologies and methodologies.
- Strong communicator who enjoys collaborating across teams, fostering a culture of knowledge-sharing and continuous improvement.

Forward-Thinking Innovator

- Always exploring emerging technologies and new approaches, with a focus on driving innovation and staying ahead of industry trends.
- Able to envision and develop concepts that challenge the status quo, bringing fresh perspectives to projects and initiatives.

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