Luan Lins

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Experience

Laboratório de Computação Embarcada e Tecnologias Industriais (LACETI-CIN) Nov 2022 – Present
DevOps Tech Lead *Recife, PE*

- Implemented IoT data lake (76k devices) with MQTT, Kafka, Spark; integrated ML/analytics; managed with Terraform; real-time/batch processing.
- Designed microservices architecture on Kubernetes with Istio as service mesh, adding observability through Prometheus, Grafana for dashboards, and Jaeger for distributed tracing.
- Established CI/CD pipeline using CircleCI and ArgoCD, applying MLOps practices with MLflow for experiment versioning and KServe for model serving in Kubernetes.
- Led a cross-functional team of 6 in implementing a second version of a manufacturing line execution system (MES) utilizing React and Node.js, resulting in a 25% performance increase.

Laboratório de Computação Embarcada e Tecnologias Industriais (LACETI-CIN) Jun 2021 – Nov 2022
Full-stack Developer *Recife, PE*

- Developed MES system for battery production line using React, GraphQL and Node.js. Created responsive interfaces, implemented GraphQL APIs and services, and integrated real-time production data.
- Established automated testing for front-end applications, achieving 90% coverage. Using Cypress for end-to-end testing and Jest for unit testing, he established a suite that ensured the functional integrity of the application.
- Optimization of data synchronization between production line sensors and cloud using a caching solution with Redis and Node.js. The solution reduced latency in data transmission and improved synchronization reliability.

Laboratório Multidisciplinar de Tecnologias Sociais (LMTS) May 2019 – Jun 2021
Full-stack Developer *Garanhuns, PE*

- Designed 'VacinaGaranhuns', a React/Google Maps system to manage COVID-19 vaccination. Included online scheduling, geolocation and home vaccination, optimizing the campaign for 12,000 people.
- Led the development of a smart irrigation system with React Native and Node.js, integrating meteorological APIs and IoT devices.
- Uses advanced analytics for accurate evapotranspiration calculation, resulting in 62% reduction in water consumption for small farmers.

Education

Universidade Federal de Pernambuco Oct 2024
Master's Degree in Computer Science *Recife, PE*

Universidade Federal Rural de Pernambuco Jul 2021
Bachelor's Degree in Computer Science *Garanhuns, PE*

- **Relevant:** Monitor in the discipline of Operating Systems, Distributed Systems

Projects

Smart Irrigation API (SIA) | *Node.js, Typescript, Express.js, Docker, MongoDB, JWT*

- Designed a RESTful API for integrating multiple climate data providers, using geographic coordinates as the main parameter.
- Produced an efficient caching system, reducing API response time by 30% and improving fast access to regional climate data.

Smart irrigation application (GrowApp) | *React-Native, Google Maps, Jest, Watermelondb*

- Developed a mobile application in React Native with Google Maps to optimize agricultural irrigation. The system integrates real-time evapotranspiration calculations and IoT devices.

- Built a LoRa mesh network for actuator devices in remote agricultural irrigation areas, significantly expanding the coverage and efficiency of field irrigation systems.

TaxiCar Simulator | *React*, *Google Maps*, *D3.js*, *Uber H3*

- Created a simulator to optimize driver-passenger matching utilizing complex geospatial algorithms.
- Introduced and evaluated several matching methods, including the Hexagonal Hierarchical Geospatial Indexing System (Uber H3).

Technical Skills

Languages: JavaScript, TypeScript, Python, Java, C, C#
Technologies:React.js, React Native, Node.js, GraphQL, API RESTful, Docker, Kubernetes, AWS, Apache Spark, Kafka, Apache NiFi, PyTorch, MLflow, KServe.
Concepts: Agile Methodology, Scrum Methodology, Git, SOLID, Clean Code, TDD, CI/CD, Microservices, Observability, SQL, NoSQL, Database Normalization, Machine Learning, Cloud Computing, Virtual Machine.
Soft Skill: Leadership, Effective communication, Teamwork
Spoken Languages: Portuguese (Native), English (Intermediate).

Certifications

Build Basic Generative Adversarial Networks (GANs) Jun 2021
U8RM8PPNTK4Y

Patents

Actuation Device for Smart Irrigation in ESP32 (GrowConnect) Jul 2020
BR BR512020002154-9

Smart Irrigation API (SIA) Jun 2020
BR BR512020001505-0

Smart irrigation application focused on evapotranspiration and climate (GrowApp) May 2020
BR BR512020001504-2

Application for managing meteorological stations and calculating reference evapotranspiration (EvApp) Feb 2020
BR BR512020001500-0

Publications

Stochastic Modeling for Assessing the Reliability and Availability of Drone-Based Surveillance Systems Jun 2024
Luan Lins, *Erick Nascimento, Jamilson Dantas, Jean Araujo, Paulo Maciel*

Performance Modeling of Microservices with Circuit Breakers using Stochastic Petri Nets Jun 2024
Thiago Pinheiro, Marco Mialaret, Paulo Pereira, ***Luan Lins****; Daliton Silva; Jamilson Dantas, Paulo Maciel*

Experimental Evaluation of Software Aging Effects in a Container-Based Virtualization Platform Oct 2020
Felipe Oliveira, Jean Araujo, Rubens Matos, ***Luan Lins****, André Rodrigues, Paulo Maciel*