

**Amauri Ribeiro**  
Curriculum vitae  
03/05/2026

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## EDUCATION

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**Ph.D. Student - Computer Science, 2025** (GPA 3.66)  
Texas Tech University (08/20205 – Present)

**Bachelor's in software engineering, 2025** (GPA3.9)  
University of North of Parana, Londrina, Parana, Brazil

**Internship Student**  
Computer Science Department - Texas Tech University (01/20205 – 05/2025)

## PROFESSIONAL EXPERIENCE

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**Digital Communications Manager** (09/2018 – 10/2023)  
Princess Cruises/Cruise industry, Santa Clarita, California, United States

Summary:  
Monitored feedback and complex organizational telemetry streams to identify trends and technical issues compromising operations.  
Provided advanced technical assistance resolving hardware, software, and localized network connectivity issues for high-volume users.  
Engineered network sniffing audits to identify malicious lateral network movements mapping active user MAC addresses across access points.

## RESEARCH AND ACADEMIC EXPERIENCE

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**Graduate Researcher / HPC Contributor | Texas Tech University (Current)**

- Built a production-grade interactive HPC monitoring and forensic dashboard using Next.js, TypeScript, and Plotly that surfaces behavioral anomalies across CPU/GPU nodes, streamlining incident triage.

- Implemented interactive anomaly views (2D density heatmaps, bipartite user-job-node graphs, historical timeline scrubbing) to reveal misuse signals like sustained high utilization, thermal spikes, and atypical power draw.
- Engineered behavioural clustering using UMAP/t-SNE to generate real-time embeddings of node telemetry, grouping "typical" behaviour and flagging deviations for investigation.
- Designed a reliable data pipeline featuring normalization, deduplication by stable IDs, and node-type classification across CPU/GPU sources to prevent double counting.
- Prioritized analyst ergonomics by ensuring clean hover templates, consistent units, export-to-image capabilities, and portable offline JSON replay for seamless transition between live API streaming and forensic triage.

Advisor Dr. Tommy Dang - Texas Tech University

## RESEARCH AND ACADEMIC EXPERIENCE

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### Graduate Researcher / TxDot Department | Texas Tech University (Current)

Built a responsive geospatial analytics web app in Next.js/TypeScript that visualizes roadway performance data with ArcGIS, optimizing map lifecycles and UI for seamless mobile/desktop use.

Full Stack development of a Next.js (App Router) platform for visualizing roadway performance and special sections data, integrating ArcGIS Maps SDK with GeoJSON layers and custom legends. Implemented a hybrid mobile/desktop layout, stabilized React hooks and effects, and optimized MapView lifecycles to prevent unmount flicker and preserve render state on toggles. Unified section pages under a shared wrapper, streamlined global UI components, and improved load/perceived performance through memoization and dependency hygiene.

- Developed a geospatial analytics web app using Next.js (App Router), TypeScript, Tailwind, and ArcGIS Maps SDK to visualize roadway performance and special sections data (GeoJSON/FeatureLayers, custom legends, search).
- Implemented a hybrid mobile/desktop UX: single Map/Table view on mobile with state-preserving toggles; split view on desktop; resolved stacking issues and ensured accessible touch targets.
- Eliminated infinite re-render loops and hook ordering errors by stabilizing effects, memoizing heavy objects (Map, MapView, GeoJSONLayer), and encoding proxied layer URLs for reliable loads.
- Added auto-renderer selection for point/line geometries to maintain consistent symbology across Level One, Special, and Experimental sections; persisted MapView across toggles and triggered resize for correct redraw.
- Standardized UI components (cards, headers, overlays) with compact spacing and consistent z-index layering; unified pages behind a common client wrapper to reduce duplication and defects.

Advisor Dr. Tommy Dang - Texas Tech University

## RESEARCH AND ACADEMIC EXPERIENCE

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### Undergraduate Researcher - (04/2023 – 07/2023)

Developing a Spring-Based E-commerce Platform. This project demonstrates a strong understanding of Spring-based development, RESTful API design, and security best practices. The developed backend system provides a solid foundation for building a comprehensive e-commerce platform.

#### Technical Approach:

- **Spring Framework:** Utilized Spring Boot for rapid application development and its core modules (Spring MVC, Spring Security, Spring Data JPA) for building a scalable and secure backend.
- **RESTful API:** Developed a set of RESTful APIs to handle user-related operations, including:
  - **User Registration:** Allow users to create new accounts with essential information.
  - **User Authentication:** Implement secure login mechanisms using password hashing and token based authentication.
  - **User Authorization:** Enforce access control rules based on user roles and permissions.
- **Technologies Used:** Spring Boot \ Spring MVC \ Spring Security \ Spring Data JPA \ PostgreSQL.

Advisor Dr. Marcio Shimoda.

University North of Parana, Londrina, Parana, Brazil

## RESEARCH AND ACADEMIC EXPERIENCE

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### Undergraduate Researcher - (02/2022 – 10/2022)

#### Implementing business intelligence in the corporate environment

Advisor Dr. Mauro Rezende.

University North of Parana, Londrina, Parana, Brazil

## TECHNICAL SKILLS

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- **Languages:** TypeScript, JavaScript, Python (Anaconda, Kaggle), C, Java, PHP, R, SQL, DAX.
- **HPC & Analytics:** SLURM Job Scheduling, iDRAC/BMC Redfish Telemetry, TimescaleDB, D3.js, Plotly, WebGL, Machine Learning (Pandas, Scikit-learn, UMAP, PCA), Data Visualization, Statistical Analysis, Power BI, ETL Processes.
- **Frameworks & Web:** React 18, Next.js 14, FastAPI, Node.js, Spring Boot, Spring Security, Tailwind CSS, TanStack Query.
- **Databases & Cloud:** PostgreSQL, MySQL, NoSQL (MongoDB, Cassandra), Git, GitHub, VS Code, IntelliJ, AWS, Terraform.
- **Cybersecurity & Networking:** Wireshark, Nmap, Burp Suite, Kali Linux, OWASP ZAP, Data Structures, Algorithms, Forensic Sciences, Cryptography, Security Audits, Intrusion Detection Systems (IDS), SIEM Tools, NIST RMF/CSF, TCP/IP, Cloud Networks.

## CERTIFICATIONS & COMPLEMENTARY EDUCATION

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- Google Data Analytics Professional Certificate (210h, 2024)
- Google Cybersecurity Certificate (180h, 2024)
- Google IT Support Professional Certificate (240h, 2024)
- Cybersecurity Foundations – Malcolm Shore (40h, 2024)
- Ethical Hacker – EDUZZ (80h, 2024)
- CS50: Introduction to Computer Science – Harvard University (180h, 2023)
- Data Science: Machine Learning – EDX (80h, 2023)
- Getting Started with DevOps on AWS (6h, 2023)

## SCHOLARSHIP

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**DGSA – Distinguished Graduate Student Assistantship.** (2025-2029)  
Annual stipend of \$25,000 plus tuition and fees waivers for up to 4 years, Texas Tech University.

**Undergraduate Scholarship** (09/2022–07/2025)  
60% Tuition Waiver for 4 years, University of North of Parana, Londrina, Parana, Brazil