ANDRE MOTTA

Raleigh, NC | 919-985-4080 | alustos@ncsu.edu | [LinkedIn](#)

SUMMARY

Driven PhD candidate in Computer Science and former Artificial Intelligence Intern at Microsoft with extensive experience in AI and software engineering. Graduating in 2024 from NCSU, specializing in the application of AI to software engineering tasks.

- Proven track record in developing AI models, leading software projects, and collaborating with cross-functional teams.
- As CTO at Oceansoft, launched a self-sufficient mobile app for COVID-19 testing in Brazil, adopted by thousands of users.
- Experienced in various programming languages and frameworks including Python, C#, .NET, and Xamarin.
- Excels at optimizing software product lines, reducing cognitive overload, and integrating AI solutions into existing systems.
- Fluent in English, Portuguese, and proficient in Japanese, with a strong background in teaching and mentoring.

EDUCATION

PhD, Computer Science | North Carolina State University   *2024*
<u>Activities</u>: *Graduate Teaching Assistant (CSC230 – C and Software Tools, CSC510 – Software Engineering)*

BSc, Computer Science | Federal University of Minas Gerais   *2019*
<u>Honors</u>: *Best Student Award in Computer Science (2019)*

AREAS OF EXPERTISE

– AI Model Development	– C# Development	– Agile Project Management
– Software Engineering	– .NET Framework/Core	– Cross-Functional Collaboration
– Machine Learning Techniques	– Mobile App Development	– Data Engineering
– Data Analysis	– API Development	– System Integration
– Python Programming	– Cloud Computing (Azure)	– Teaching and Mentoring

EXPERIENCE

Microsoft   **Redmond, WA**
Artificial Intelligence and SDE Intern   *May 2023 – August 2023*

- Developed and implemented first-of-their-kind AI solutions for the AO5GC (Azure Operator 5G Core) organization, enhancing the accuracy and efficiency of machine learning models using Python and C# programming.
- Facilitated Agile planning sessions and managed project execution, ensuring on-time delivery of AI projects while maintaining high standards of code quality, reliability, and performance.
- Collaborated with cross-functional teams, including data scientists and software engineers, to integrate AI models into existing software systems, resulting in improved system functionality and streamlining the user experience.
- Conducted data analysis and preprocessing to prepare large datasets for machine learning model training, improving model accuracy and reliability.
- Designed and tested predictive algorithms, optimizing them for deployment in real-world applications, which contributed to the advancement of the organization's AI capabilities.
- Documented project workflows, AI model specifications, and development processes to facilitate knowledge transfer and future project scalability.
- Participated in regular code reviews and implemented feedback to enhance code maintainability and performance.

Oceansoft   **Brazil**
CTO   *November 2017 – January 2024*

- Championed the development and successful launch of the first-ever self-sufficient mobile app for home COVID-19 test kits in Brazil, in collaboration with Labtest, leveraging C#, .NET Core, and Xamarin to create a robust and user-friendly application.
- Directed end-to-end project development processes, overseeing the creation of mobile applications, web applications, APIs, databases, and data pipelines, ensuring seamless integration and high performance.
- Architected and implemented microservice-based solutions on the Azure cloud platform, enhancing the scalability and reliability of deployed services.
- Managed the full tech stack, including .NET Framework/Core, Xamarin, SQL, NoSQL, React Native, ReactJS, Python, and Flask, to deliver the innovative solution.
- Led the design and deployment of APIs in .NET, facilitating secure and efficient data communication between mobile apps and backend services.
- Developed and maintained SQL and NoSQL databases, optimizing data storage and retrieval processes to support high-volume transactions and analytics.
- Collaborated closely with cross-functional teams, including developers, designers, and stakeholders, to ensure alignment on project goals and deliverables.
- Utilized EntityFramework for data access, ensuring efficient and secure interactions with the database, improving application performance and enhancing the user experience.

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EXPERIENCE CONTINUED…

CSU MarketSystem   **Brazil**
Machine Learning Engineer   *July 2018 – July 2019*

- Developed consumer-grade predictive models to forecast market trends and customer behavior, utilizing .NET and Python to create strong algorithms.
- Designed and implemented software architectures to seamlessly integrate predictive models into existing solutions, enhancing the functionality and performance of the company's products.
- Conducted data analysis and preprocessing on large datasets using SQL and Hadoop, ensuring the quality and reliability of datasets used for model training.
- Collaborated with cross-functional teams to deploy machine learning models, ensuring smooth integration and operational efficiency within the company's technological ecosystem.
- Utilized Pl/SQL for database management and optimization, improving data storage and retrieval processes critical to the performance of predictive models.
- Participated in Agile development processes, contributing to sprint planning, task prioritization, and project execution, ensuring timely delivery of high-quality software solutions.
- Documented development processes and model specifications to facilitate knowledge sharing and support future iterations.

Jr Mendonça   **Brazil**
Software Engineer   *January 2018 – June 2018*

- Contributed to multiple software development projects in parallel within a software factory environment in Belo Horizonte, leveraging a broad range of technologies to deliver high-quality solutions.
- Developed and maintained mobile and web applications using .NET and Xamarin, ensuring robust and user-friendly interfaces for various client needs.
- Designed and implemented database solutions using both SQL and NoSQL technologies, optimizing data storage and retrieval to enhance application performance.
- Utilized React Native and ReactJS for front-end development, creating responsive and efficient user interfaces that improved user experience.
- Collaborated with cross-functional teams, including designers, developers, and project managers, to ensure alignment on project goals and successful project delivery.
- Applied Python for backend development and data processing tasks, streamlining workflows and enhancing system capabilities.

PROJECTS

North Carolina State University   **Raleigh, NC**
PhD Research   *2019 – 2024*

- Led advanced research in the field of interactive search with optimizations under the supervision of Professor Tim Menzies, focusing on enhancing software product lines by selecting optimal products that align with decision-maker preferences.
- Developed new techniques to reduce cognitive overload and minimize the number of model evaluations required, utilizing Python and C# to implement and test these methods.
- Collaborated with interdisciplinary teams to apply research findings to real-world software engineering tasks, resulting in improved decision-making processes and more efficient product selection.

NSF Grant Project   *2019*

- Researched and developed machine learning techniques to pair resumes with job descriptions under the supervision of Professor Tim Menzies, focusing on optimizing encodings to enhance the decision-making process of algorithms.
- Implemented and tested multiple machine learning models using Python, C#, and JavaScript, aiming to improve the accuracy and efficiency of resume-job matching systems.
- Analyzed the impact of optimized encodings on machine learning algorithm performance, contributing insights in published, peer-reviewed journals and academic articles.

SKILLS

Programming: Microsoft .Net (C#), C++, JavaScript, Python
Frameworks: .Net Framework/Core, Xamarin, React Native, ReactJS
Databases: Firebase, Hadoop, Oracle Database, Microsoft SQL Server, MySQL, PostgreSQL
Languages: English (Fluent); Portuguese (Fluent); Italian (Fully Proficient); French (Proficient); Japanese (Proficient)