

VALENTINA TORRES DA SILVA

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EDUCATION

Fairleigh Dickinson University
Bachelor of Science in Computer Science

Teaneck, New Jersey
Anticipated May 2026

TECHNICAL STACK

Programming Languages: Python, R, Java, JavaScript, Bash

Frameworks & Libraries: Scikit-Learn, TensorFlow, PyTorch, Next.js, TailwindCSS, FastAPI, Pandas, NumPy, Matplotlib, Seaborn

Databases: SQL, PostgreSQL (via Supabase)

Cloud Platforms: AWS (SageMaker, Lambda, API)

Data Skills: NLP, Supervised Machine Learning (Regression & Classification), Retrieval-Augmented Generation (RAG)

Software Development/Testing: API Integration, Front-End Development with [Next.js](#), Bash Scripting for Automation and Testing

Performance Optimization: Process Automation in Bash and Python

DevOps & CI/CD: Linux, VS Code, Cursor, GitHub Copilot

Version Control: Git

Languages: English, Spanish, Portuguese

PROJECTS

Long Run | Battle of the Brains "Best Technology Solution" Winner | Team Leader *October 2024*

- Secured 3rd place out of 30+ teams by delivering a high-performance React.js + Next.js platform in 16 hours, optimizing client-side routing to reduce load times by 35% and improve user engagement.
- Directed a 3-member dev team to design and deploy a multi-page event platform with embedded video, interactive scheduling, and eco-materials showcase, meeting competition criteria under tight deadlines.
- Presented technical and design rationale to the president of KPMG, reinforcing project credibility and solution viability.
 - Link: https://github.com/valen7nasilva8/BaFleofheBrains2024_next.js

RAG-Enabled AI-Powered Legal Contract Data Extraction | FDU + RSG Media/ Rightsline *August 2024 - November 2024*

- Cut legal contract review time by 70% by developing a Retrieval-Augmented Generation (RAG) application that automated context-aware data extraction and accelerated content generation.
- Built a FastAPI back end with PostgreSQL (via Supabase) to deliver near-real-time query results, reducing retrieval latency by 65% and improving data accessibility for stakeholders.
- Designed a responsive, TailwindCSS-styled Next.js front end, boosting usability and achieving 100% higher satisfaction ratings during stakeholder demos.
- Enhanced AI output accuracy by 90% through OpenAI API integration with prompt engineering, resolving critical gaps in contract processing workflows.
- Accelerated delivery by 50% using AI-assisted development tools (GitHub Copilot, Cursor AI, Replit) for rapid prototyping, automated debugging, and streamlined deployment.
- Led requirement refinement via stakeholder interviews and weekly progress reviews, ensuring final deliverables exceeded client expectations in live demo presentations.
 - Link: <https://github.com/valen7nasilva8/RAG-Aplica7on-for-RSG-Media>

Detection of AI-Generated Social Bots on Twitter *April 2025- May 2025*

- Designed an end-to-end pipeline across classical ML, deep learning, and clustering: preprocessing (English-tweet filtering $\geq 70\%$, normalization), feature engineering (URL/hashtag/mention counts, profile signals, account age, friends-to-followers), scaling, and consistent splits (70/15/15 for DL; 80/20 for ML).
- Benchmarked KNN (0.86), Logistic Regression (0.87), SVM (0.87), Random Forest (0.86), Bi-LSTM (0.87), and PCA+KMeans clustering (0.88), confirming DL outperformed classical ML on precision/recall/F1 while clustering delivered the top accuracy without labels.
 - Link: <https://github.com/valentinasilva8/aws-nlp-news-classification>

News Headline Classification with AWS SageMaker *August 2025*

- Fine-tuned DistilBERT on headline dataset using PyTorch + Hugging Face, achieving 96% validation accuracy (loss 0.118).
- Deployed a real-time inference API with SageMaker, Lambda, and API Gateway, delivering predictions in $\sim 1.5s$ latency.
- Integrated CloudWatch monitoring and S3 model storage to ensure production-ready reliability and cost control.
 - Link: <https://github.com/valentinasilva8/twitter-bot-detection-english>

WORK EXPERIENCE

- Improved NAO humanoid AI robot task accuracy by 40% by configuring custom Python scripts for multi-step automation workflows.
- Resolved 12 technical challenges by designing creative code-based solutions, accelerating lab experiment completion and ensuring operational readiness for research demonstrations.
- Researched and implemented emerging AI and robotics techniques to optimize task execution speed and robot adaptability.

Computer Lab Assistant

August 2023 - Present

- Reduced support request resolution time by 50% by diagnosing and resolving software, hardware, and login issues for {50+} faculty and students weekly.
- Maintained and updated lab equipment, ensuring 100% availability and operational efficiency during peak usage periods.
- Delivered technical assistance and user guidance that improved end-user satisfaction scores by 20%.

AWARDS

eBay Innovation Scholarship – \$5,000 | Mar 2024

- One of only 4 students selected out of hundreds for an essay demonstrating the measurable community impact of a completed technology project.