Nicolas Sanchez Noguera

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SUMMARY

Recent Graduate from the University of Michigan, specializing in computational and statistical programming, with hands-on experience with Machine Learning, Web Systems, and ETL development. I am passionate about applying data engineering techniques to solve complex problems and drive meaningful insights. I am eager to contribute to Big Data projects with innovative solutions and a diversified perspective.

EDUCATION

University of Michigan **Ann Arbor, MI**
Bachelor of Science in Engineering in Data Science, Minor in Mathematics *August 2023*
Relevant Coursework: Computer Security, Data Mining, Linear Regression, Machine Learning, Web Systems

SKILLS

Programming: Bash, C++, C#, CSS, HTML, JavaScript (React), MATLAB, Python, R, SQL
Technologies: Apache Kafka, Apache Spark, AWS, Azure Databricks, CI/CD, Docker, Git, MySQL, VMWare, WireShark
Operating Systems: Windows, Linux
Languages: Fluent in Spanish, French, English
Certifications: Databricks Associate Data Engineer

PROFESSIONAL EXPERIENCE

DataAnnotation **Remote**
Contractor – Coding Prompt Engineering *October 2023 - Present*
- Simulating user-chatbot dialogues by creating intricate Python code generation prompts and formulating accurate responses
- Crafting prompts for dual-chatbot evaluations, focusing on code explanation, bug resolution, and framework selection
- Assessing model performance using metrics such as verbosity, harmfulness, correctness, and instruction following

Rovisys **Aurora, OH**
Software Engineering Intern *June - August 2022*
- Collaborated with team to design, build, and launch a full-scale data reporting Windows Service for FirstEnergy in C#
- Programmed a data collector that retrieved data from governmental websites using Newtonsoft and HTTPClient
- Configured a PI Data Archive which stored and organized the service's collected data using PISDK
- Provided FirstEnergy with real-time updates on Midwest power plant metrics, boosting operational efficiency

PROJECTS

Land Use and Land Cover Classification – Personal Project *October 2023*
- Designed a multi-class Image Classifier using a PyTorch 2-D CNN on a Google Colab Notebook
- Trained, validated, and tested the model on remotely sensed images from the EuroSAT dataset, scoring a test accuracy of 84%
- Wrote a comprehensive scientific report on the project, exploring the data, model architecture, and training and eval processes

Autonomous Drawing Arm – Team Project (Python) *December 2022*
- Built a robot arm that autonomously drew squares on flat, angled, or rotated surfaces within a designated workspace
- Engineered the 3 degrees of freedom arm using a foamcore body and dynamixel motors, controlled by the JoyApp framework
- Calibrated the arm using Inverse Kinematics to compute interpolated joint angles to manage end effector placement

Simulated Search Engine – Team Project (Python, Bash) *December 2022*
- Constructed a scalable search engine using MapReduce to create segmented inverted index creation from Wikipedia data
- Implemented Python MapReduce programs for data processing, including text cleaning and term frequency computation
- Deployed an Index Server to process search queries, leveraging a RESTful approach to generate real-time JSON results
- Integrated PageRank and TF-IDF for enhanced search result relevance, balancing query dependent and independent factors
- Enabled concurrent processing in a Search Server, optimizing parallel Index Server queries for expedited results

Replicated Instagram – Team Project (Python, React/JSX, HTML, SQL) *October 2022*
- Created a Web Application with Flask, enabling dynamic page navigation and real-time content updates
- Configured Flask for RESTful interactions with an SQLite database, managing likes, comments, follows, and posts
- Implemented React Frontend to handle interactive features such as posts, follow actions, and infinite scroll on the main feed