**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