

Joaquin Parra
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EDUCATION

The University of Chicago

Bachelor of Science in Computational and Applied Mathematics & Computer Science

Chicago, IL

Expected, June 2028

Honors: Odyssey and Rodriguez Pastor Scholar (full ride worth over \$400k); Dean's List Award (all eligible quarters)

Selected Coursework: Intro. to Data Science I-II, Intro. to Proofs in Real Analysis, Abstract Linear Algebra, Intro. to Computer Science I-II

Cumulative GPA: 3.91/4.0

EXPERIENCE

Aqui Suena Perú

Machine Learning intern

Lima, Peru

July 2025 – October 2025

- Documented the core program logic for large-scale audio feature extraction program, generating detailed song descriptors with Essentia library (music analysis)
- Optimized Keras-based neural network inspired in Spotify's deprecated "energy" metric, analyzing architecture, feature importance and model performance, reducing predictive error to 0.09 RMSE.
- Proposed and implemented alternative model approaches to improve prediction accuracy and computational efficiency for the "energy" feature by using symbolic regression (PySR) and extreme gradient boosting (XGBoost).

Euromotors S.A.

Supply Chain operational reports & Analytics intern

Lima, Peru

June 2025 – September 2025

- Analyzed and contributed to optimizing Python-based slotting algorithm, ensuring the better utilization of vertical storage space by reducing the total number of trays from 516 to 421 (18.5% improvement) required for 26K+ spare parts.
- Led data cleaning initiative, correcting 5,000+ unit errors in weight and dimensions, preventing costly storage misallocations.
- Built web scraping tools with Selenium to extract 20K+ competitor spare parts prices and car specification, enhancing data-driven commercial intelligence.

PROJECTS

MCP Voice-Controlled Agent

Project Pygmalion Hackathon – Creativity Award (\$1000)

September 2025

- Designed and led implementation of a speech-based control system for an autonomous Minecraft agent, enabling real-time natural language interaction.
- Integrated speech transcription, intent parsing and agent execution into a unified workflow using MCP protocols and Claude Code tools

Exploratory Research: Connectomics & CNN-based segmentation

University of Chicago Department of Physics – Academic Research

October 2025 – December 2025

- Researched 2D and 3D instance segmentation in connectomics datasets, focusing on specific interneural connection coloring/filling using neural architectures such as Flood-Filling Networks (FFNs) and TRMs, analyzing scalability and applicability to noisy neural imaging data

LEADERSHIP & ACTIVITIES

Manchester City OSC

Founder president

Lima, Peru

March 2023 – Present

- Lead and organize cheerleading events as president of Manchester City's official affiliated supporter branch in Peru.
- Manage member registrations and oversee media operations for a community of 30+ paid and 100+ general members.

AlgoGroup @ UChicago

Member

Chicago, IL

October 2025 – Present

- Participated in workshops and coding challenges focused on core data structures, algorithms, and optimization techniques.
- Collaborated with peers and industry-experienced mentors to strengthen problem-solving skills and technical interview preparation.

SKILLS AND INTERESTS

Programming & Data Tools: Python (Pandas, NumPy), Jupyter Notebooks, SQL, Excel, Selenium

Machine learning & Analytics: Scikit-learn, Keras, PyTorch, Neural Networks, Regression, Classification, Clustering & Model Evaluation

Interests: Soccer, Pole Vaulting, Classical Piano, Jazz (Bossa Nova), Japanese City Pop