

ELIUD ULISES AGUILAR DURÁN

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Hello! I am passionate about programming, statistics, and data science. I have nearly two years of experience developing data analysis and machine learning projects, both in research and practical applications. I have worked on projects ranging from statistical analysis in Python and R, to developing machine learning and deep learning models using Scikit-learn, TensorFlow, and KNIME, focused on areas such as drug discovery and object detection in medical imaging. You can view my projects on GitHub: <https://github.com/Eliud7720>

1. Experience

Data Scientist & Data Analyst – Freelance Projects | Dec 2023 – Present

- Developed 46 machine learning models (SVM, Random Forest, XGBoost, and Logistic Regression) to predict the potential activity of compounds inhibiting JAK2, identifying ~900 compounds with a probability >0.9 of inhibition.
- Developed a web scraping script for the chemical database ProTox to automate toxicity prediction of compounds, reducing the time required for analysis.
- Applied inferential statistics (Kruskal-Wallis's test) to identify species uniquely associated with autistic patients compared to non-autistic controls.
- Built a Python script using multiple libraries to automate the calculation of molecular interactions, reducing manual effort and speeding up analysis.
- Developed a YOLO model to identify healthy neutrophils and neutrophils undergoing netosis in images, enabling high-throughput analysis to compare drug-treated and control groups and assess drug efficacy.

2. Technical Skills

Programming Languages: Python, SQL, R, HTML/CSS/JSS.

Python Libraries: Pandas, Scikit-learn, Numpy, Matplotlib, Tensorflow, PySpark.

Tools: Excel, KNIME, Git & Github, VS Code, Jupyter, Power BI, AWS, Google Cloud, Ubuntu, Rstudio, Minitab.

3. Education, Courses & Certificates

Master in Genomic Biotechnology (Aug 2023 – Sep 2025)

Instituto Politécnico Nacional (IPN)

- ✓ **First Place**, Best Software Award 2024 – Instituto Politécnico Nacional (IPN).
- ✓ **Second Place**, Current Trends in Drug Research and Development (topic: Identification of potential STAT3 inhibitors in Alzheimer's disease using machine learning).
- Developed 60 Machine Learning & Deep Learning models (Multilayer perceptrons, Random Forest, SVM, XGBoost and LogisticRegression) to predict the activity of molecules against EGFR, MAPK1, SRC, and STAT3, identifying 4 compounds capable of inhibiting 3 of these proteins, which are associated with the Alzheimer-DM2 relationship.
- Certifications: IBM Data Science, AWS – Getting Started with Compute (EC2), Databases (RDS), Storage (S3). Basic Proficiency in KNIME Analytics Platform. Data Analytics with Python (FCC).

Chemical Engineering (Aug 2018 – Dec 2022)

Universidad Autónoma de Tamaulipas (UAT)

- ✓ Graduated with Honors (GPA:9.96, Thesis and Professional Examination accredited).
- Green Belt Six Sigma Certificate – International Six Sigma Institute.
- Scientific Computing with Python (FCC) – applied Python & pandas to solve complex problems in Chemical Engineering.
- NOM 009, 017, 019, 025 & 026 Certification – (STPS).