

Israel Alcántara

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EDUCATION

New Jersey Institute of Technology – Ying Wu College of Computing

Newark, NJ

Bachelor of Science in Computer Science | GPA: 3.5

May 2026

Relevant Coursework: Data Structures & Algorithms | Programming Language Concepts | Intensive Programming in Linux | Data Science | Database System Design & Management | Operating Systems | Computer Networks | Probability & Statistics

KEY SKILLS

Programming Languages: Python, Java, C/C++, Bash, HTML, JavaScript, CSS, SQL

Frameworks & Tools: Linux, Git, Google Colab, VS Code, Vim, IntelliJ, Eclipse, Node.js, MySQL, MongoDB, LaTeX, AWS (CloudWatch), JUnit, XML

Libraries: Pandas, NumPy, Matplotlib, Scikit-learn, Plotly, Dash, Seaborn

Spoken Languages: Fluent in English and Spanish

EXPERIENCE

Software Development Engineer Intern

May 2025–Aug. 2025

Amazon Web Services (AWS) — Amazon Dedicated Cloud (ADC), BlackMirror

Arlington, VA

- Shipped **lossless consecutive-duplicate datapoint compression** for BlackMirror's ADC to **commercial metrics pipeline (Java, XML)**; added a **duplicates** field, integrated the decompressor and error handling, and added **30+** unit tests.
- Reduced metric payload volume up to 60 GB/day** (avg **38 GB/day**) across **3** regions by collapsing runs of identical datapoints while preserving exact reconstruction, with up to **100M** compressible consecutive duplicates per region daily.
- Built **CloudWatch** observability: emitted **13** custom metrics from Java and published **1** cross-region dashboard (pre-production and production) to size opportunity and guide design; documented **delta** and **sum-only** follow-ups.

Delivery Technician/Lab Technician

Sept. 2022–Present

Media and Technology Support Services (MTSS) - NJIT

Newark, NJ

- Collaborate** with a team of five to standardize audiovisual equipment setup procedures and implement routine maintenance protocols, boosting equipment reliability by **40%** across more than **100** lectures annually.
- Diagnose and resolve** technical issues in classrooms and labs using **systematic troubleshooting**, leading to a **30%** reduction in **equipment downtime**.

Event Coordination Director

May 2024–May 2025

Society of Hispanic Professional Engineers (SHPE) - NJIT

Newark, NJ

- Organized and executed 12+** networking and professional development events, increasing participation by **50%** and reducing planning time by **20%**.
- Coordinated** end-to-end logistics (room bookings, vendor scheduling, and audio-visual (AV)) and maintained checklists/runbooks to guide a team of about **10** volunteers.

PROJECTS

Data Analysis and Prediction App | *Streamlit, Python, Scikit-learn* | Jupyter Notebook

Nov. 2024–Dec. 2024

- Developed** an **interactive web app** for CSV data upload, visualization, and machine learning model training using a **Gradient Boosting Regressor**, featuring dynamic charts for **real-time insights**.
- Built automated data preprocessing** that handles missing values, scales numerical data, and encodes categories, allowing users to select features and evaluate model predictions in real time.

Compiler for SFort95 Language | *Visual Studio Code, Git* | C++

Mar. 2024–Apr. 2024

- Developed** a full **SFort95 compiler** with **lexical analysis**, **recursive-descent parsing**, and interpretation, ensuring compliance with Fortran95 standards and robust syntax validation.
- Designed and implemented** a **state-based lexical analyzer**, **operator-precedence parsing**, and **runtime checks**, generating token reports and handling errors like undefined variables and division by zero.