

NEO TROVELA-VILLAMIEL

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EDUCATION

Northwestern University

Evanston, IL

Bachelor of Science in *Computer Science*

Expected June 2026

- Major GPA: **3.61/4.00** | Dean's List for 4 quarters
- Coursework: Scalable Software Architectures, AI and International Security, Human Computer Interaction

WORK EXPERIENCE

BioDawn Innovations

Oak Brook, IL

AI Drug Discovery Intern

August 2025 – Present

- Co-developed a full-stack drug discovery platform targeting age-related diseases focusing on Alzheimer's Disease, transitioning prototypes into a modular FastAPI backend and React frontend infrastructure
- Trained and validated ML models on multi-omics datasets with scikit-learn/PyTorch, generating predictions, confidence scores, ROC curves, confusion matrices, and feature importance visualizations
- Implemented RESTful API endpoints for exploratory analysis and preprocessing with integrated data visualizations and a persistent model registry for managing multiple trained models
- Designed and deployed interactive React dashboards for compound analysis with embedded BioDawn branding, dark mode accessibility, and user feedback tools presented weekly to researchers
- Authored onboarding guides and API schema docs to streamline team onboarding and collaboration

JetSweat

New York, NY

Software Development Intern

May 2025 – August 2025

- Updated corporate analytics dashboard to include 3rd-party livestream data by rewriting backend data functions; refactored SQL queries to improve efficiency and added support for historical data tracking
- Redesigned and launched the Health Plans Landing Page with React.js and CSS, transforming a Figma design into a responsive, client-facing webpage to enhance marketing efforts for JetSweat's wellness offerings
- Rebuilt calorie burn estimation logic across video analytics by resolving frontend race conditions, implementing modern formulas, and developing a reusable calorie utility for consistent and accurate results
- Improved AWS deployment pipeline by updating buildspec_prod.yml to invalidate S3 cache for multiple CloudFront distributions, ensuring consistent delivery of new content during production deployments

PROJECTS

PhotoApp - Cloud-Based Image Management System

Evanston, IL

Scalable Software Architectures

February 2025

- Developed a web application that leveraged Python for client-side interactions allowing users to upload, analyze, and search photos stored in AWS S3, supported by AWS Rekognition, RDS, Node.js, and MySQL
- Utilized Docker for containerization and deployed the application using AWS Elastic Beanstalk and EC2

ClubHouse – Club Discovery and Messaging Platform

Evanston, IL

Software Studio

September 2025 – October 2025

- Co-developed a Ruby on Rails and Bootstrap web app that allows students to create, discover, and join clubs, featuring user authentication, role-based permissions, and built-in messaging and profile pages
- Led deployment configuration on Heroku with a PostgreSQL database, setting up environment variables, database migrations, and production pipelines, while managing GitHub workflows to ensure stable releases

TECHNICAL SKILLS

Languages: Python, JavaScript, C++, C, Ruby, Java, SQL, MATLAB, Racket

Frameworks: React, Node.js, Express.js, FastAPI, Ruby on Rails, Bootstrap, HTML/CSS, Streamlit

Cloud & DevOps: AWS (S3, EC2, Elastic Beanstalk), Heroku, Docker, Git

Databases: MySQL, PostgreSQL, SQLite

Libraries: Pandas, NumPy, scikit-learn, TensorFlow, PyTorch, RDKit, Matplotlib, Seaborn

ADDITIONAL

Certifications: Data Scientist: Analytics (Codecademy, Sept. 2024)

Memberships: Biokind Analytics, Institute of Electrical and Electronics Engineers (IEEE), Engineers Without Borders, Delta Tau Delta