


# Denis Leang

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## Education

### Columbia University

M.S. in Data Science

Expected Dec 2024

New York, NY

- **Relevant Coursework:** Machine Learning, Artificial Intelligence, Computer Vision, Statistical Inference, Exploratory Data Analysis & Visualization, Computer Systems

### Telecom Saint-Etienne

B.S./M.S. in Mathematics and Computer Science (Diplome d'ingenieurs)

Sep 2020 - Aug 2023

Saint-Etienne, FRA

- Preparation for the French national entrance examinations to Grandes Ecoles at Lycée du Parc (2017–2020)
- **Relevant Coursework:** Data Structures & Algorithms, Object-Oriented Programming, Software & Web Development, Database Management & Analysis, Virtualization, Probability & Statistics, Optimization & Estimation methods

## Skills

**Programming Languages:** Python, Java, TypeScript, SQL

**Technologies:** Git, scikit-learn, PyTorch, Tensorflow, pandas, OpenCV, Spring Boot, Vue.js, Angular, React, Spark, Docker

**Concepts:** Version Control, Agile Methodology, Object Oriented Programming, API, Relational Databases, Design patterns, MVC, Distributed Computing, Containerization, Cloud Computing (AWS, Azure), Deep Learning, NLP

**Spoken Languages:** French, German, Khmer

## Experience

### Analysis Group

Data Scientist Intern

Jun 2024 - Aug 2024

Boston, MA

- Enhanced a web application built with C# (.NET) and React.js by developing new functionalities using Flowbite and Tailwind, enabling smooth survey distribution to patients for drug testing and improving user engagement
- Reduced user navigation time by 50% and minimized actions needed to access and edit projects by implementing a wireframe with scalable components and optimizing API calls
- Tracked and analyzed cryptocurrency transaction flows involving billions of dollars on Binance by developing Python scripts to call the Etherscan API across multiple clusters, supporting in-depth investigations of suspicious wallets

### Bionomous SA

Software Engineer Intern

Feb 2023 - Aug 2023

Villaz Saint-Pierre, CHE

- Developed a centralized web application with Java Spring Boot and Vue.js to manage software releases, eliminating the need for software engineer involvement in routine updates and resulting in streamlined release management
- Integrated a secure and consistent authentication system using Microsoft Azure Active Directory and JWT tokens, improving login process efficiency and enhancing security for both users and administrators
- Enhanced the company's products (Java for Android and Flutter/Dart) by implementing quality-of-life improvements requested by clients, boosting user satisfaction and product usability based on customer feedback

## Projects

### Iris Recognition Model

- Engineered an iris recognition package with OpenCV and Python, incorporating preprocessing, feature extraction, and LDA-based matching to support one-to-one and one-to-many biometric recognition modes
- Achieved a consistent 95% Correct Recognition Rate (CRR) by implementing a Gabor-based multichannel filtering technique, enhancing feature extraction across L1, L2, and Cosine similarity metrics

### Capstone project (Columbia Medical School): Electronic Health Record (EHR) Study on Interstitial Lung Disease

- Conducted data wrangling in Python to harmonize large-scale EHR data across multiple health systems
- Implemented advanced NLP methods to analyze chest lung reports, identifying associations between drug usage and interstitial lung disease, providing insights to guide better clinical treatment guidelines

### Space simulation Game

- Optimized memory efficiency in C++/OpenGL by dynamically rendering space elements (asteroids, planets, starship) to prevent memory leaks and improve performance
- Enabled real-time starship navigation with intuitive camera control, integrating OpenCV for hand movement detection, enhancing gameplay interactivity and fluidity