Dominique Desert

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I am a techie. I am a full-stack developer but have an intense interest in Data Science, Machine Learning, and AI. I built and sold my first app, CoreIdea, that processes files and generates notes at 15. I am passionate about using technology to solve real-world problems through AI, data, and scalable apps.

📚 Education

Saddle River Day School - Saddle River, NJ
High School - 3.8/4.0
September 2024 - June 2026
- Relevant Coursework: Data Science, Product Development, CS Research Project
  - Building a school-wide tutor app
  - Developing Machine Learning models and Neural Networks for predictive analytics
  - Working on data visualization, engineering, and AI Integration
- Awarded Dean's list

Applied Technology High School & Bergen Community College - Paramus, NJ
Mechatronics
High School - 3.5/4.0
September 2021 - Febuary 2024
- Relevant Coursework: Fusion 360 Certified, proficient in C
  - Built and printed various 3D models
  - Used C to program Arduino tasks
- Awarded Honors list

💼 Work Experience

Founder - *DataViz (Independent Project)*
April 2025-Present
- Flask app for auto-visualizing CSV
- Cleans data, removes outliers, performs PCA + KMeans
- Creates charts and visual summaries
- 200+ weekly users

🔗 [Live App](#) Github

Full Stack Engineer - *CoreIdea (Independent Project)*
June 2024 - August 2024
- Built and sold a file to a Markdown web app (React, Python, Firebase)
- Exited with a 4-figure deal in the first week
- Onboarded 100+ users in the first week

🛠️ Projects

Firebase-populator - *Python Package for Database Seeding*
- Automates Firestore data generation

🔗 PyPI | Stats

Airbnb Price Prediction - *Neural Network, XGBoost, Random Forest*
- Airbnb price prediction using deep learning and ensemble models (NN, XGBoost, RF)
- MAE of $11.30 and R^2 of 0.87 using feature engineering and model stacking
- Automated preprocessing pipeline with data validation, outlier removal, and interaction features
- Optimized Neural Network using BatchNorm, dropout, Huber loss
- Visualized results using error distribution, feature importance, and performance across price ranges

👨‍💻 Github

PeerMatch - *Study Partner Matching Platform*
April 2025 - Present
- Web application that matches students with compatible partners from the onboarding form
- Used advanced algorithms to enhance matching relevance
- Used AI to analyze subject relationships and improve match accuracy

🔗 Live App 👨‍💻 Github

ML and AI Comparison - *Tips Dataset*
April 2025-Present
- Regression model using scikit learn to predict tipping behavior
- Applied PCA for dimensionality reduction, improving model clarity
- Compared Linear Regression and Neural Network models using MAE

👨‍💻 Github

💻 Skills

Languages: Python, JavaScript
Frameworks & Libraries: React, Next.js, Node.js, Flask, Django
Databases: Firebase, Firestore, MongoDB, Supabase
Tools & Platforms: Git
Focus Areas: Full-Stack Development, Data Science, Machine Learning, AI