CHRISTOPHER DENQ

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SUMMARY

Self-taught, self-funded, and **self-directed** student of data science and machine learning. Unique background in **philosophy** and **art history** confers better story-telling skills from nebulous data. **Avid self-learner** and **serial project-builder** who strives to constantly grow, empower others, and add value back to the world.

EDUCATION

Foothill College — Los Altos Hills, CA
Prospective Student in Computer Science — March 2022 – Present

- Spring 2022 Coursework: Multivariate Calculus, OOP Programming (Python), Elementary Statistics, Intro Cloud Computing
- Summer 2022 Expected Coursework: Differential Equations, Intermediate Software Design (Python)
- Fall 2022 Expected Coursework: Linear Algebra, Advanced Data Structures and Algorithms (Python)

Self-Learning

Coding Events/Platforms: Advent of Code 2021, Google Foobar, HackerRank, SQLPad.io — May 2021 – Present
Fundamentals of Machine Learning for Predictive Data Analytics by Kelleher, Textbook Self-Study — Nov 2021 – Present
FreeCodeCamp: Data Analysis with Python, Scientific Computing with Python — August 2021 – September 2021
Wharton Customer Analytics (WCA) Free Self-Guided Modules: Python Bootcamp, SQL Bootcamp — May 2021 – August 2021

University of Pennsylvania — Philadelphia, PA
Bachelor of Arts in Philosophy and Art History — August 2015 – December 2017, January 2019 – May 2021

- **Major GPA**: 3.7/4.0, **Cumulative GPA**: 3.3/4.0
- **Honors:** Maguire Foundation Arts & Humanities Scholarship, Mayor's Scholars Program @ Kings Court English College House Scholarship for Community Engagement, John C. Parker Fellowship for Undergraduate Research

Van Nuys Senior High — Van Nuys, CA
Highly Gifted Math and Science Magnet — August 2011 – June 2015

- **LAUSD GPA:** 4.60/4.00 (W), 3.98/4.00 (U), **UC GPA:** 4.72/4.00 (W), 4.24/4.00 (Capped)
- **Honors**: Ranking 3/582, National AP Scholar Award (Highest Distinction), ACT: 35/36

SELECTED PROJECTS: MACHINE LEARNING (More on GitHub)

Full-Stack Machine Learning Dashboard: Mushroom Edibility Predictor — March 2022
Python (SKLearn, Flask, Matplotlib), HTML/CSS/JS — github.com/cdenq/mushroom-edibility-predictor-web-app

- Trained 7 ML models on 60k+ data points to predict its edibility to within 80-99% accuracy, created 8 EDA graphs
- Created 1 front-end webapp (3 pages); presented findings and creation process to 3 Penn faculty/staff and 20+ students

Deep Learning Model: Charity Funding Predictor — February 2022
Python (Pandas, SKLearn), Google Colab, TensorFlow, Machine Learning — github.com/cdenq/charity-funding-success-predictor

- Cloud-based computing, machine learning project that preprocesses, trains, and evaluates 41k data points on charity funding
- Creates deep learning neural network with 3-6 layers, 10 neurons; optimized hyperparameter tuning in 500+ epochs
- Found model with over 80% accuracy within 1 iteration, 91% accuracy within 3 iterations; created 1 analysis report

Unsupervised Learning Model: Cryptocurrency Clustering — February 2022
Python (SKLearn: PCA, tSNE, KMeans) — github.com/cdenq/cryptocurrency-market-data-classification

- Machine learning Python project that takes 1.2k cryptocurrency coins, preprocesses the data with Standard Scaler, Label Encoder, One-Hot Encoder, and PCA, and then apply KMeans model with elbow curve to find 4 distinct clusters, tSNE viz

Supervised Learning Model: Loan Risk Predictor — February 2022
Python (SKLearn: RFC, Logistic Regression) — github.com/cdenq/loan-high-risk-predicter

- Machine learning Python project that takes 25k data points, preprocesses the data with Standard Scaler, Label Encoder, and One-Hot Encoder, and then generates 2 models (Logistic Regression 67% score, and Random Forest Classifier 58% score)

SELECTED PROJECTS: DATA ANALYTICS (More on GitHub)

Web Scraper and Dashboard: Data for Planet Mars — December 2021
Python (Flask, Beautiful Soup), MongoDB, HTML/CSS/JavaScript — github.com/cdenq/mars-data-scraper-and-dashboard

- Web scraped 4 types of Mars Data: news articles, featured images, Mars facts, and hemisphere sub-images
- Uploaded and stored all data in MongoDB database, which pipes to a Flask webpage application on demand

Open Weather/Google Geocode API Interactor: Ideal Vacation Recommender October 2021
Python (API, Pandas, Matplotlib) github.com/cdenq/ideal-vacation-by-weather-predictor

- Interacted with CitiPy to generate 500 random cities, cross-referenced with Open Weather's weather statistics, performed EDA on global weather records, and plotted ideal vacation spots based on given weather conditions
- Created 8 visualizations and used linear regression to predict weather at any given location

Full-Stack Interactive Web Dashboard: Market Metrics on Video Game Industry January 2022
Python (Flask), MongoDB, HTML/CSS/JavaScript github.com/cdenq/web-dashboard-of-video-game-industry

- Team full-stack project that scraped market metrics on the video game industry and visualized on dashboard
- Analyzed 10k data points, maintained 5 MongoDB collections, created 19 visualizations
- Created 1 web app, 2 webpages, 1 report and 13 slides; presented findings to 3 Penn faculty/staff and 20+ students

EDA: Streaming Service Providers' Offer Package Analysis October 2021
Python (Pandas, Matplotlib) github.com/cdenq/streaming-service-analysis-and-offer-characterization

- Team Python project that performed EDA on Kaggle dataset on Netflix, Hulu, Disney+ offerings
- Analyzed 50k data points, created 30 visualizations, found 10 unique characterizations across 2 fields (TV Show, Movie)
- Created 1 report and 15 slides; presented findings to 3 Penn faculty/staff and 20+ students

RELEVANT VOLUNTEERING

California State University: Northridge, College of Engineering and Computer Science Northridge, CA
COMP452 Machine Learning Class Volunteer November 2021 – Present

- Researching graduate-level machine learning material, creating 15+ class slide decks, 17+ Python examples to demonstrate ML concepts, assisting in general class material preparation, proofreading, documentation for Professor Wenchin Hsu
- Self-studied *Fundamentals of Machine Learning for Predictive Data Analytics by Kelleher* for machine learning work
- **Succeeding** in applying abstract ML and statistical material to Python code and slide decks for graduate-level course

Freelance/Volunteer Computer Science Tutor: Wyzant.com, Local Various
Python Course Teacher, AP Computer Science Tutor September 2021 – Present

- Taught computer science topics to 25+ high school, college, and adult learners for total 65+ hours ranging from coding fundamentals to advanced data structures and algorithms to machine learning topics
- **Succeeded** in adapting teaching style, clearly communicating abstract computer science concepts, mentoring students

Tzu Chi Buddhist Foundation, Tzu Chi Medical Foundation USA San Dimas, CA; Philadelphia, PA; Northridge, CA
National Volunteer, Free Clinic Receptionist, Event Crew, General Service Member 2011 – 2015, 2017 – 2019, 2021 – Present

- Long-time general service member with experience in assisting 6 different departments: Primary Care Physician, Pharmacy, Acupuncture, Dental and Vision, Reception and Records, Equipment Service
- Assisted in 50+ charity fundraisers, disaster reliefs, food/clothes drives, homeless shelter cooking, senior homes visits, orphanage assistances, and free clinic; helped with preparation material, planning, transport, field work, clean-up
- Learned and followed Buddhist teachings of Master Cheng Yen of compassion, wisdom, and patience in all volunteering
- Instilled strong teamwork mentality, adaptive problem solving, and deep desire to help others, particularly through healthcare
- **Succeeded** in aiding people in need for 8 years in 5 cities: San Dimas, Philadelphia, Northridge, Los Angeles, Alhambra

SKILLS AND FRAMEWORKS

- **Languages**: Python, SQL (PostgreSQL), NoSQL (MongoDB), HTML/CSS/JS
- **Libraries/Frameworks**: SKLearn, Keras, TensorFlow, Pandas, Numpy, Scipy, Matplotlib, Seaborn
- **Cloud Tools**: AWS (Sagemaker, S3, RDB), Hadoop/Spark, Docker, GCP Cloud Run, Google Collab, Git
- **Visualization Tools**: Tableau, Excel/VBA, Google Sheets/Google Apps Script
- **Miscellaneous**: APIs, web scraping

HOBBIES

Sudoku • Chess • Riddles • Escape Rooms • Resource-Management Boardgames