

# CHRISTOPHER DENQ

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## EDUCATION

**University of Pennsylvania**, School of Engineering and Applied Sciences Philadelphia, PA  
*Graduate Certificate in Data Science* March 2022

- Cumulative GPA: 4.0/4.0
- **Topics:** Machine Learning, Big Data Analytics, Fullstack Development, Database Management

**University of Pennsylvania**, College of Arts and Sciences Philadelphia, PA  
*Bachelor of Arts in Philosophy and History of Art* May 2021

- **Honors:** John C. Parker Fellowship (\$500 for statistical optimization on game theory model) 2016, 2017

## SKILLS AND FRAMEWORKS

- **Big Data & Cloud:** Apache Hadoop, Spark, PySpark, Snowflake, AWS
- **Machine Learning:** SKLearn, Scipy, TensorFlow, Keras, PyTorch
- **Visualization & Analysis:** Tableau, Pandas, Numpy, Matplotlib, Seaborn, Excel/VBA, Google Sheets/Apps Script
- **Back-End Programming & Database:** Python, R, Java, PostgreSQL (SQL), MongoDB (NoSQL)
- **Front-End Server & Web Application:** HTML/CSS/JavaScript, Flask, Docker, GCP Cloud Run, Github Pages
- **Other:** Agile/Scrum, ETL, Git/Github, Google Colab, Amazon SageMaker, APIs, web scraping, Adobe Photoshop/Illustrator

## SELECTED PROJECTS (More on GitHub)

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

**Full-stack Development Web Dashboard:** Market Metrics on Video Game Industry January 2022  
*Python, MongoDB, HTML/CSS/JavaScript* [github.com/cdenq/video-game-performance-scraper-and-web-dashboard](https://github.com/cdenq/video-game-performance-scraper-and-web-dashboard)

- Full-stack project that scraped market metrics on the video game industry and visualized that data on live, interactive dashboard; Python webscraping, API interaction, and direct import to generate 10,000 data points; Python cleaning and MongoDB database to complete ETL process with 5 collections; front-end dashboard generates 19 visualizations
- Created 1 report and 13 slides, presented findings to 3 Penn faculty/staff and 20+ students

## RELEVANT EXPERIENCE

**California State University: Northridge**, College of Engineering and Computer Science Northridge, CA  
*Machine Learning Research Assistant* November 2021 – Present

- Currently working directly with Dr. Wenchin Hsu, professor of computer science at CSUN
- Researching graduate-level machine learning material, creating 4+ class slide decks, writing 10+ Python examples to demonstrate ML concepts, assisting in general class material preparation, proofreading, documentation
- **Succeeding** in applying abstract ML and statistical material to Python code and slide decks for graduate-level course

**Freelance/Volunteer Computer Science Tutor:** Penn, CSUN, Code.org, Wyzant.com, Local Various  
*CIS121 Remote Tutor, COMP542 Tutor, Python Course Teacher, AP Computer Science Tutor* September 2021 – Present

- Collectively 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

**Oasis Commissary (Non-Profit)**, University of Pennsylvania Philadelphia, PA  
*Founder and Executive Business Operations Manager* September 2016 – March 2020

- Wrote grant to turn unused college dorm space into non-profit commissary, obtained vendor license from Philadelphia city
- Managed 21 staff and 2 junior managers, \$5000 bi-monthly budget, 6 marketing campaigns, 2 training programs
- **Succeeded** in serving local college dorm for 3 years: \$1300 profit (returned to University), 22k purchases, 180 unique clients

## INTERESTS

Sudoku • Chess • Escape Rooms • Resource-Collection Board Games • Murder Mystery Dinner Parties