DOMINIC ARCONA

Data Scientist | Machine Learning Engineer | Applied Mathematics PhD

https://dominicarcona.github.io

PROFESSIONAL EXPERIENCE

Voyatek, Remote.   **Apr 2020 - May 2024**

Analytics Consultant II

- Generated $1M monthly in voluntary tax remittance for state DOR client through quarterly mail correspondence campaigns. Team received a company-wide Outcome Award for this achievement.
- Compiled proprietary data source of ~800k remote seller leads using web scraping and CRISP-DM workflows.
- Built and evaluated classification and regression models in Python (pandas, scikit-learn) to prioritize outreach, improving lead targeting accuracy and downstream conversion performance.
- Communicated model insights and data limitations to non-technical stakeholders; developed client-friendly dashboard highlighting key metrics for actionable adjustments to the solution.

University of Southern California, Los Angeles, CA.   **Aug 2021 - Present**

Graduate Teaching Assistant

- Enhanced learning outcomes for 40+ undergraduate students per semester by leading structured discussion sections and consulting hours in calculus, probability, statistics, and linear algebra.
- Communicated complex mathematical and statistical concepts clearly to diverse audiences, strengthening students' quantitative reasoning and problem-solving skills.
- Recognized by the USC Math Department for outstanding teaching with Dennis Ray Estes prize.

AQN Strategies, McLean, VA.   **Jul 2019 - Mar 2020**

Consultant

- Conducted pricing, credit risk, and fraud-related analyses to support the launch and evaluation of a small-business loan product at a top-5 international bank.
- Synthesized quantitative analyses into actionable A/B testing strategy for loan pricing sufficiently powered for evaluation within 90 days of product launch.

Edgeworth Economics, Washington, D.C.   **Summer 2016, Fall 2017**

Economic Consultant Intern

- Analyzed multi-million-row economic datasets using SAS, Stata, and Excel to identify pricing patterns and competitive dynamics.
- Supported expert analyses in antitrust and commercial litigation matters through data cleaning, exploratory analysis, and statistical summaries.
- Translated raw economic data into clear tables and exhibits used in internal analyses and expert reports.

EDUCATION

University of Southern California, Los Angeles, CA.   **Aug 2021 - Present**

PhD Candidate, Applied Mathematics; M.S., Statistics.   GPA: 3.81/4.00

- **Research Focus**: Markov chains, shuffling models, representation theory, convergence phenomena.

Dartmouth College, Hanover, NH.   **Jun 2019**

B.A., Mathematics and Chemistry Double Major, Engineering Sciences Minor.   GPA: 3.75/4.00

HONORS & AWARDS

Dennis Ray Estes Teaching Award: Recognized by the USC Math Department for outstanding teaching (2025).
Voyatek Outcome Award: 'Remote Seller' solution for large state DOR client received company-wide recognition (2024).
American Chemical Society Scholar: Selected for 4-year undergraduate scholarship for minority students studying Chemistry.
E. E. Just Scholar: Dartmouth scholars' program for minority students in STEM.
Hispanic Scholarship Fund Scholarship: 2015-16 and 2017-18 recipient.

TECHNICAL SKILLS

- **Machine Learning & Analytics:** supervised/unsupervised learning, classification, regression, time series analysis, predictive modeling, CRISP-DM workflows
- **Programming & Data Manipulation:** Python (Pandas, NumPy, SciPy, scikit-learn), R, SQL, MATLAB, Stata, SAS
- **ML Frameworks:** PyTorch (Torch), TensorFlow
- **Data Tools:** NumPy, Pandas, SQL/NoSQL databases, data scraping, data pipelines
- **Cloud & Deployment:** AWS, MS Azure, NiFi, Git, Docker
- **Visualization & BI:** Matplotlib, Seaborn, Plotly, custom client-facing dashboards
- **Other Software/Tools:** Excel VBA, VSCode, Jupyter, Conda
- **Fundamentals & Methods:** statistical inference, probability, optimization, time series, CRISP-DM