

DOMINIC ARCONA

Data Scientist | Applied Mathematics PhD

<https://dominicarcona.github.io>

PROFESSIONAL EXPERIENCE

University of Southern California, Los Angeles, CA.

Aug 2021 - Present

Graduate Teaching Assistant

- Lead structured quantitative instruction for 40+ students per semester in calculus, probability, statistics, and linear algebra, strengthening applied statistical reasoning and experimental design skills.
- Distill complex mathematical and statistical concepts into clear, structured explanations for diverse audiences, reinforcing rigorous hypothesis testing and analytical thinking.
- Recognized by the USC Math Department for outstanding teaching with Dennis Ray Estes prize (2025).

Voyatek, Remote.

Apr 2020 - May 2024

Analytics Consultant II

- Generated \$1M monthly in voluntary tax remittance for state DOR client ML-optimized mail correspondence campaigns; team received company-wide Outcome Award (2024).
- 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.
- Partnered with cross-functional stakeholders to translate complex statistical findings into executive-ready dashboards and strategic recommendations.

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).

Zabriskie Senior Chemistry Prize: Undergraduate research in organic chemistry earned top department honor for majors (2019).

American Chemical Society Scholar: Selected for 4-year undergraduate scholarship for minority students studying Chemistry.

Hispanic Scholarship Fund Scholarship: 2015-16 and 2017-18 recipient.

TECHNICAL SKILLS

- **Programming:** Python (Pandas, NumPy, scikit-learn), R, SQL, MATLAB, Stata, SAS, Javascript, HTML/CSS.
- **Machine Learning:** supervised & unsupervised learning, classification, regression, time series, clustering, decision trees, neural networks (PyTorch).
- **Cloud & Deployment:** AWS, Azure, NiFi, Git, Docker.
- **Visualization:** Matplotlib, Seaborn, Plotly, Tableau, custom client-facing dashboards.
- **Other Tools:** VSCode, Jupyter, Conda, Excel, Powerpoint.
- **Fundamentals (PhD level):** statistical inference, high-dimensional statistics, probability, optimization, time series analysis, linear algebra, numerical methods.