

# Robertas Gabrys

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## Education

- **Applied Conformal Prediction Certificate** 2024
  - **Machine Learning Fundamentals Bootcamp Certificate** 2024
  - **Modern Forecasting in Practice Certificate** 2023
  - **Management Development Program Certificate** 2017  
Office of Executive Education | Marshall School of Business USC
  - **Ph.D.** Statistics, Department of Mathematics and Statistics | Utah State University (GPA=4.0) 2006–2010  
*Thesis: Goodness-of-fit and change point tests for functional data*
  - **M.S.** in Applied Mathematics with a focus on Finance and Insurance | Vilnius University 2003–2005  
*Thesis: Market Index Investigation Using Functional Data Analysis Methods*
  - **B.A. (CUM LAUDE)** in Applied Mathematics with a focus on Finance and Insurance | Vilnius University 1999–2003  
*Thesis: Value at Risk Modeling*
  - **SOA/CAS/CIA Exam P/1** December 2007
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## Technical Skills

- **Analytics and Data Science Skills:** Data Cleaning, Exploratory Data Analysis (EDA), Data Visualization, Dashboarding, Predictive and Prescriptive Analytics, Forecasting, Machine learning, Statistical Modeling, Optimization, Clustering, Change point detection
  - **Technologies for Data Science:** Python, R, SQL, MATLAB, Orange, JMP, Tableau, Microsoft Office
  - **Big Data, Machine Learning and Cloud Platforms:** Databricks, Hadoop, AWS, Snowflake, Teradata, Datalake
  - **Databases:** Relational Databases, Data Warehousing, Database Management
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## Academic Data Science Experience

**Associate Professor of Clinical Data Sciences and Operations** | University of Southern California 2010 – present

Selected courses I taught:

- Business Analytics
  - Business Forecasting
  - SQL Databases for Business Analysis
  - Python for Business Analytics
  - Applied Time Series Analysis for Forecasting
  - Applied Statistical Learning Models
  - Data Analysis for Decision Making
  - Statistical Methods
  - Statistical Computing and Data Visualization
  - Managerial Statistics
  - Foundations of Statistical Inference
  - Linear Algebra and Differential Equations
  - Calculus, Logic and Geometry
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## Industry Data Science Experience

- **Professor of Data Science in Residence** | AXS, Los Angeles, US July 2023 – December 2023  
Designed and implemented a predictive model to forecast sales revenue from resold tickets for diverse entertainment events, enabling data-driven decisions in advertising and marketing investments
- **Data Science Consulting** | TJ Maxx, Los Angeles, US September 2022 – December 2022  
Built Machine Learning and Data Science for Retail Site Selection
- **Professor of Data Science in Residence** | Cisco, San Jose, US October 2016 – July 2017  
Supervised the translation of business problems into data science products using analytics dashboards, statistical, and machine learning models:
  - **Reward Models** (Renew/Attach/Upsell/Cross-sell): The project aimed to increase service revenue from attachments, upsells, and cross-sells through improved prioritization of customers to be contacted.
  - **Transportation Capacity Demand Modeling and Forecasting:** The project's objective was to forecast weekly transportation capacity requirements (in kg) by mode, by lane, and negotiate and secure capacity with carrier partners ahead of time based on market trends, product mix, and projected build-ship numbers.

- **Fulfillment Risk Modeling and Prediction:** The project focused on identifying and reducing shortage occurrences, minimizing their negative impact on business operations.

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## Data Science and Analytics Research Publications

- **Monitoring the intraday volatility pattern** | *Journal of Multivariate analysis* 2013  
Co-authors: S. Hörmann and P. Kokoszka
- **Limit distributions of change-point estimators for functional data** | *Journal of Multivariate analysis* 2008  
Co-authors: Aue, A., Horváth, L. and Kokoszka, P.
- **Detecting changes in the mean of functional observations** | *Journal of the Royal Statistical Society* 2008  
Co-authors: Berkes, I., Horvath, L. and Kokoszka, P.
- **Portmanteau test of independence for functional observations** | *JASA* 2007  
Co-author: Kokoszka, P.
- **Discriminating between long memory and volatility shifts** | *Austrian Journal of Statistics* 2007  
Co-authors: Zhang, A., Kokoszka, P.
- **Optimal Implied Views for Skewed Return Distributions** | CRSC Technical Report 2006  
Co-authors: W. Geng, R. Koskodan, J. Li, L. Owens, Q. Wu, and M. Zuo  
Center for research and Scientific Computation, Raleigh, NC

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## Professional Development

Selected workshops and Conferences I participated in:

- **Applied Conformal Prediction** | Maven 2024
- **Machine Learning Fundamentals Bootcamp** | The AiEdg 2024
- **Modern Forecasting in Practice (20 hours)** | SPHERE 2023
- **PyCon USA and PyCon Lithuania** | SLC UT USA; Vilnius Lithuania 2023
- **Time-series in healthcare: Challenges and Solutions (24-hour workshop)** | University of Cambridge 2022
- **Deep Learning for Forecasting (4-hour workshop)** | Amazon 2021
- **Long Memory in Volatility (4-hour workshop)** | London School of Economics and Political Sciences 2021
- **Nowcasting & Models for Mixed Frequency Data (32-hour summer school)** | Bocconi University 2021
- **Renewable Energy Forecasting (40-hour summer school)** | Technical University of Denmark 2020
- **Forecasting to meet demand (4-hour workshop)** | SAP Switzerland AG 2020
- **Economic Forecasting (16-hour summer school)** | University of Oxford 2018
- **Modeling mortality dynamics for pensions and annuity business (32-hour summer school)** 2005  
MIB School of Management, Trieste, Italy | Groupe Consultatif Actuariel Europeen
- **Life: Financial modeling (40-hour workshop)** | Swiss Insurance Training Centre | Zurich, Switzerland 2005

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## Data Science Consulting Engagements

- **Resale revenue forecasting** | AXS 2023
- **Machine Learning and Data Science for Retail Site Selection** | TJ Maxx 2022
- **Commercial multifamily real estate rent growth forecasting** | Fondo Atlas 2021-2022
- **Data driven location selection for new Crunch gym locations** | Centro.io 2021
- **Churn analytics and modeling** | Video Jet 2021
- **Hourly load forecasting** | Southern California Edison 2018
- **Mortgage rate forecasting** | Bankrate 2017
- **Worker compensation fraud analytics** | Los Angeles City- Office of Controller 2016
- **Operations analytics and optimization** | Kaiser Permanente 2015
- **Traffic/pedestrian collision analytics** | Los Angeles City- Department of Transportation 2015

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## Actuarial Experience

**Actuary** | UAB SEB VB Life Insurance, Lithuania

September 2002 – December 2005

- Developed and priced various insurance and reinsurance products.

- Prepared insurance proposals for individuals and corporate clients.
- Created various analytics reports within the company and for the Insurance Supervisory Commission of the Republic of Lithuania.
- Conducted various non-routine actuarial analyses of insurance activity and actuarial management.
- Supervised and managed interns.
- Managed assets and liabilities. Assessed and evaluated the solvency margin. Formed technical provisions.
- Developed surrender value methodology and calculators.
- Conducted premium recalculations in cases of alterations.
- Coordinated and administered reinsurance activities. Created insurance premium calculators.
- Created various dashboards for the sales department and actuarial control.

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### **Professional Service, Managerial/Supervisory Experience**

- Judged data science competitions.
- Served on various committees, including the faculty promotion committee, the MSBA admissions committee, IT committee, PhD qualifying exam and defense committees, and Undergraduate curriculum committee.
- Contributed as a referee and judge on the Global & Discovery Scholar Application Review Committee.
- Served as a faculty mentor for student organizations such as Ascend, UNICEF@USC, and the Hospitality Industry Project.
- Collaborated with multiple companies, bringing real-life projects to my classes.
- Worked alongside a UNC professor and the director of the big analytics data lab to organize energy forecasting competitions for students.
- Conducted two 80-hour in-person workshops on Forecasting for the Big Data Analytics program at SP Jain School of Global Management in Mumbai, India.
- Reviewed articles for various statistical journals, including Statistical Analysis and Data Mining, Journal of American Statistical Association, Biometrika, Journal of Multivariate Analysis, and Scandinavian Journal of Statistics.
- Presented research findings at international data science conferences.
- Facilitated and led regular meetings among core course faculty members.
- Provided support and guidance to new core course faculty, and doctoral students.
- Collaborated with an instructional program designer to enhance students' critical thinking skills and align core course objectives with AACSB Marshall School Undergraduate Learning Goals.
- Took the lead in:
  - Developing core course objectives supporting the school's learning goals
  - Establishing common base syllabus elements for respective core courses
  - Evaluating required course materials, such as textbooks, cases, readings, and videos
  - Exploring and integrating technology enhancements for improved student learning

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### **Awards/Honors**

- **Graduate Researcher of the Year** | Department of Mathematics and Statistics | Utah State University 2007
- **Dean's List Award for Outstanding Scholastic Achievements** | Utah State University 2006
- **University Scholarship for Outstanding Scholastic Achievements** | Vilnius University, Lithuania 1999-2006