UMIT CELIK

Ph.D. Candidate in Operations Management & Data Analytics focusing on machine learning for causal inference

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No visa sponsorship required

EDUCATION

2019- 2025	**UNC Chapel Hill Kenan-Flagler Business School**
	Ph.D. Candidate in Operations Management & Data Analytics
	Royster Society of Fellows
	Advisor: Bradley Staats
2012- 2016	**Naval Academy**
	Bachelor of Science, Summa cum laude, 3.95/4.00
	Industrial Engineering
	School of Management and Leadership
2008- 2012	**Naval High School**

SUMMARY:

I am a Ph.D. candidate in **Operations Management and Data Analytics** at **UNC-Chapel Hill** Kenan-Flagler Business School. My research focuses on applying **econometrics and machine learning for causal inference** to improve the efficiency of healthcare facilities. In addition to my academic work, I collaborate with healthcare companies on projects involving **causal inference, AI, and data science.** I am also involved in a big data initiative at the **Kenan Institute**, where I work on forecasting economic health indicators for North Carolina. I have presented my research at major conferences and workshops, including INFORMS, MSOM, POMS, DSI, as well as invited events in academia and industry. I also teach Operations Management and serve as a TA for MBA courses in Business Statistics, Generative AI, and Data Analytics.

Technical Skills:

Research: Research methodology & design, healthcare analytics, statistical analysis, forecasting, reviewer (Management Science, POMS), machine Learning for causal inference
Programming: Python (Numpy, Pandas, Sklearn, NLTK, Tensorflow), STATA, R, SQL, Databricks
Visualization: Tableau, PowerBI, Python (Matplotlib, Seaborn, Plotly), \TeX

RESEARCH: Causal Inference, Econometrics, Machine Learning, Healthcare Operations, Data Analytics

Does the Physician Choice of When to Perform EHR Tasks Influence Total EHR Workload?
Umit Celik, Sandeep Rath, Saravanan Kesavan, Bradley Staats
Published, M&SOM

Reducing Appointment Delays: The Impact of Standardized Electronic Health Record Usage on Physician Timeliness - A Causal Inference and Machine Learning Approach
Umit Celik, Sandeep Rath, Bradley Staats
In preparation for submission to Management Science

<u>Predictive Modeling of Relapse Rates and Simulation for Improved Early Intervention in Opioid Treatment Centers</u>
Umit Celik, Bradley Staats
In preparation for submission to Management Science

WORK EXPERIENCE

2019 - Present   <u>UNC Chapel Hill Kenan-Flagler Business School, Chapel Hill,</u> North Carolina
Ph.D. Candidate in Operations, Supply Chain and Data Analytics

- Research in Healthcare Operations & Data Analytics

  -Examining the impact of EHR(Epic) task timing on healthcare operations by causality using instrumental variables and simultaneous equation models.

  -Studying the effects of EHR(Epic) standardization on reducing delays and increasing physician efficiency using propensity score matching and double machine learning.

  -Research on the potential of machine learning to enhance early intervention strategies in opioid treatment centers. We develop a prediction algorithm in a team that creates user interface of medical advice in opioid treatment centers.

  -Attended conferences for research presentation (UNC Center for the Business of Health, INFORMS(Since 2020), MSOM, POMS, DSI, Gies College of Business, Kenan Institute of Private Enterprise).

  -Attended workshops for research development (Behavioral Operations Management Summer Institute at Harvard Business School, Empirical Operations Management Workshop at The Wharton School, University of Pennsylvania).

  -Undergraduate, EMBA and MBA Program Teaching (Operations, Statistics, and AI).

2024 - Present   Kenan Institute of Private Enterprise<u>, Chapel Hill,</u> North Carolina
Data Scientist (Part-time) – Researcher

- Big Data & AI: Forecasting the Indicators of Economic Health of North Carolina in a think tank corporation

  - Worked on forecasting economic health indicators for North Carolina and the relationship between new business creations and employment. To assess this relationship, we use Business Registration Data from the NC Secretary of State. We clustered industry types in NC by using NLP.

2018- 2019   <u>FedEx (Contractor), United Eagles Postal Service,</u> Connecticut
Operations & Business Development Manager, R&D

- Business Development & Data Analytic
  - Led a team of mechanics and over 100 drivers in a FedEx contractor startup generating annual revenue exceeding $10 million, streamlining fleet maintenance and spare parts supply chain management, achieving a 10% reduction in overall costs. Fleet data acquisition by GPS tracking and driver performance scoring based on driving quality and safety, achieving reduction in the number of accidents and malfunctions due to aggressive driving.

2016- 2018   <u>Koc Holding-Arcelik</u>, Istanbul, TURKEY
Industrial Engineer, Customer Care Directorate
- Developing warehousing and operational standards of supply chain management of spare parts.
  - Increasing the performance of processes in "Logistics & Human Behavior in After Sales Operations".
  Used SAP Enterprise for monitoring and data analysis to streamline spare parts logistics.

Umit Celik

TEACHING

Instructor
BUSI 403: Operations Management, Undergraduate, UNC (Summer 2022)

Teaching Assistant
MBA899: The Democratization of Generative AI, MBA Program, UNC (2023-2024)
Business Statistics, MBA Program, UNC (Summer 2023)
EMBA 703: Operations Management, Executive MBA Program, UNC (2021-2023)
BUSI 403: Operations Management, Undergraduate, UNC (2021-2022)
MBA 715: Data Analytics and Decision Making, MBA Program, UNC (2024)

INVITED PRESENTATIONS

2019 - Present	UNC Chapel Hill Kenan-Flagler Business School, Harvard Business School, Gies College of Business, UNC Center for the Business of Health, INFORMS, MSOM, POMS, DSI.

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