Jerome Yurchisin

APPLIED MATHEMATICAN & DATA SCIENTIST

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Innovative and enthusiastic analytics professional with deep experience communicating actionable insights from diverse datasets • Expertise to identify and implement the right analytical methodologies • Continual learner • Project Management, Team Leadership, College-level teaching experience

SKILLS AND PROFICIENCIES

- Teaching, Tutoring, Communication (13 yrs)
- Optimization (8 yrs)
- Applied Probability & Statistics (7 yrs)
- Data Visualization (7 yrs)
- Exploratory Data Analysis (7 yrs)

- Technical Writing & Presentation (6 yrs)
- Text Mining/Natural Lang. Processing (5 yrs)
- Machine Learning (5 yrs)
- Quantitative Research (4 yrs)
- Project Management (3 yrs)

TOOLS AND TECHNOLOGIES

Programming Languages & Software: R/RStudio (9 yrs), Python (2 yrs), SQL (3 yrs), VBA (5 yrs), AIMMS (5 yrs), SAS (2 yrs), Microsoft Access (2 yrs), Microsoft Excel (10 yrs), Splunk (1 yr), Tableau (2 yrs), Oracle Database (1 yr)

WORK EXPERIENCE

BOOZ ALLEN HAMILTON — SENIOR MATHEMATICAN   03/2013– CURRENT

Lead Data Scientist, Office of the Chief of Information Security for Acquisition   *08/2013 – Current*

- **Advanced Analytical Modeling:** Analyzed an operational data set to determine usability by understanding fields and data completeness; statistically characterized key metrics, leveraged unsupervised and supervised learning for identification and classification of key operation characteristics; forecasted future operational demands using time series analysis

- **Portfolio and Workforce Optimization:** Formulated prototype mixed-integer programming (MIP) models that maximize the utility of a financial portfolio and models cyberspace force development with multiple objective functions and parameter levers to allow scenario customization in each case

- **Unstructured Text Analysis:** Introduced and advanced the use of text mining and analytics as part of the project workstream by creating a process that automates mapping the budget to activities; built a scoring model to map operations to mission taxonomies using unstructured free text fields

- **Data Visualization, Presentation Ability & Stakeholder Management:** Creatively visualized data and authored presentations to communicate methodology and results to stakeholders which regularly included senior-level military and civilian leadership (General/SES) across DoD components

> *Major Accomplishments:*
>
> Statistical and unsupervised learning analyses were instrumental in the development of a discrete-event simulation model that outputs resources needed to perform cyberspace operations. The model has been verified and validated by key government stakeholders and is being used to identify resource gaps for anticipated operational demand in 2020

Quantitative Research Expert, US Coast Guard Office of Requirements & Analysis   *06/2017-10/2019*

- **Leading Analytical Problem Solving:** Devised methodology to quantify impacts of catastrophic events on Maritime Domain Awareness (MDA) and to establish KPIs for the Coast Guard's ability to police fisheries in support of the Coast Guard's Living Marine Resource (LMR) mission; used supervised learning to classify potential fishing violations and identify feature importance; directed and mentored junior staff in their analyses and provided them room to learn

- **Data-Driven Results:** Uncovered trends, including significant shifts in MDA mission execution through a statistical comparison of baseline operations to variations; used geo-location and asset utilization data to determine fishery coverage

> *Major Accomplishments:*
> The LMR study results provided the Office of Requirements & Analysis the information needed to request significant changes in resource allocation for the LMR mission, which was approved for FY 2020 and 2021

Project Manager & Technical Lead, US Coast Guard Research & Development Center   *10/2017-07/2019*

- **Capability and Methodology Research:** Researched and evaluated analytical risk methodologies in parallel with COTS and GOTS solutions that quantify multiple forms of navigational risk using geospatial data to meet client specified qualifications as well as additional criteria identified by the team based on subject matter expertise
- **Tool Creation:** Oversaw the development of a data processing and management tool that utilized ArcGIS software and Python scripts; Ensured tool's functionality met or surpassed requirements
- **Stakeholder Management:** Managed stakeholders from various parts of the Coast Guard throughout the design, implementation, and results presentation of the risk assessment process
- **Project Management:** Developed and planned project tasks, supervised deliverables, adhered to scheduling, budgetary, risk management, and contractual obligations

> *Major Accomplishments:*
> Based on the team's research and recommendations the Coast Guard has begun acquiring the software tools needed and training personnel to use the software in support of quantifying risk of offshore energy installations

Optimization Analyst, US Coast Guard Acquisition Directorate   *03/2013-02/2014*

- **Workforce Planning Optimization:** Built a multi-objective integer programming (IP) optimization model that determined personnel levels to minimize gaps in maintenance and watch demand for National Security Cutters while adhering to in-port business rules; created dashboard to allow users to change model parameters

Senior Mathematician & Data Scientist, Internal Projects   *03/2013-Present*

- **Predictive Modeling & Team Leadership:** Directed a team of data scientists in applying supervised learning algorithms; classification model that predicts the likelihood a contract is awarded and a regression model that estimates shifts in contract award dates reducing error in revenue forecasts
- **Entrepreneurial Initiative:** Developed and presented a business case to utilize machine learning algorithms designed to identify anomalous and potentially unlawful vessel activity using geo-location data; won investment funding to develop prototype models and dashboards
- **UI/Tool Creation:** Lead the development of a resource allocation optimization application in R/Shiny that leveraged integer programming; presented the model and application to US Coast Guard representatives during a firm-sponsored Data Science Day
- **Sports Analytics:** Served as a data science team member developing an NFL play prediction application and providing statistical analysis of play data (BlitzD)
- **Collaboration Development:** Partnered with a leading optimization software company and a major US airline to develop an optimization Hackathon and Learning Lab, providing modeling and consulting mentorship to students

SELF-EMPLOYED & UNC LEARNING CENTER, MATHEMATICS TUTOR	**08/2010 – 03/2013**
UNC DEPT OF STATISTICS & OPS RESEARCH, GRADUATE INSTRUCTOR	**08/2009 – 06/2011**
CUYAHOGA COMMUNITY COLLEGE, MATHEMATICS INSTRUCTOR	**08/2007 – 07/2009**
OHIO UNIVERSITY DEPT OF MATHEMATICS, GRADUATE INSTRUCTOR	**09/2005 – 06/2007**

FORMAL EDUCATION

MS Statistics & Operations Research, University of North Carolina at Chapel Hill, 2011
MS Applied Mathematics, Ohio University, 2007
BS Ed. Mathematics, Ohio University, 2005