JARYT SALVO

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ACADEMIC DEGREES

Bowling Green State University **Bowling Green, OH**

- **Doctor of Philosophy (PhD)** in Data Science ***2024 – Present***
- **Master of Science** in Analytics *(GPA: 4.0/4.0)* ***2020 – 2021***
- **Master of Arts** in Cross-Cultural and International Education *(GPA: 4.0/4.0)* ***2017 – 2018***
- **Bachelor of Science** in Education, Minor in Mathematics ***2011 – 2014***

ACADEMIC POSITIONS

Computer Science Lecturer ***Fall 2022 – Fall 2023***

Eswatini Medical Christian University, Peace Corps Response

- Developed AI and Database courses with focus on R-based analytics
- Created and managed course content through Google Classroom platform

Assistant Language Teacher (ALT) ***Fall 2018 – Fall 2020***

Japan Exchange and Teaching (JET) Program

- Developed comprehensive English curriculum for grades 3-9
- Collaborated with Japanese faculty on innovative teaching approaches

Special Education Paraprofessional ***Summer 2018***

Camp Imagine

- Managed small group activities based on target goals and objectives derived from students' IEPs

Graduate Teaching Assistant ***Spring 2017***

College of Education and Human Development, BGSU

- Directed learning via reflection prompts on variety of topics such as: community assessment, positioning and physical accessibility, demographic analysis, agency goals, and impacts

Secondary Mathematics and English Teacher ***June 2014 – July 2016***

Peace Corps, Malawi

- Taught mathematics and English in resource-limited settings
- Developed locally-adapted teaching materials and methodologies
- Led community education initiatives including World Map Project
- Mentored local teachers in educational best practices

NON-ACADEMIC POSITIONS

Risk International ***October 2021 – October 2022***

Data Analyst

- Developed and maintained Power BI dashboards for risk analysis
- Created automated data pipelines for insurance claims processing
- Implemented machine learning models for risk assessment

TEACHING EXPERIENCES

Undergraduate Courses

Eswatini Medical Christian University ***Fall 2023***

- MCS 105: Computer Foundation II
  - Advanced computing concepts utilizing William Fawcett Hill's "Learning thru Discussion" format with 8-step process
  - Introduced functional programming with Clojure and covered databases, information systems, and cybersecurity
- MCS 305: Artificial Intelligence I
  - Comprehensive coverage of regression analysis from simple linear to polynomial models with hands-on R implementation
  - Developed practical skills through R scripts for variable selection, outlier analysis, and logistic regression

Eswatini Medical Christian University ***Spring 2022***

- MCS 100: Computer Foundations I
  - Core concepts in information technology, internet architecture, and system components
  - Practical applications in software systems, data storage, and network communications
- MCS 301: Database Warehousing & Mining
  - Exploratory data analysis techniques with interactive R programming exercises and visualizations
  - Implemented statistical methods through R scripts covering resistant lines, median polish, and two-way plots
- MCS 415: Artificial Intelligence II
  - Advanced machine learning algorithms with hands-on implementation using R programming
  - Applied clustering, ensemble methods, and neural networks through guided R script walkthroughs

Bowling Green State University ***Spring 2017***

- Field Experience in Cultural and Community Contexts
  - Directed learning via reflection prompts on community assessment, physical accessibility, demographic analysis
  - Managed course learning management system

Secondary Education

Japan Exchange and Teaching Program ***2018 – 2020***

- English as a Second Language (Grades 3-9)
- Taught at five different schools

Peace Corps, Malawi ***2014 – 2016***

- Mathematics: Geometry, Algebra I & II, Precalculus
- English Language Arts

ACADEMIC ADVISING

Eswatini Medical Christian University ***2022 – 2023***

- Advised student project on Library Management System for Eswatini National Library in Mbabane
- Mentored student research on Facial Recognition for Drowsiness Detection in Driving Applications
- Guided student development of Neural Network Architecture for Neurodegenerative Disease Detection using MRI Images

RESEARCH INTERESTS

- Machine Learning Operations and Crime Pattern Analysis
  - Recurrent Neural Networks for Sequential Modeling of Count Data
  - Applications in Spatio-temporal Crime Pattern Prediction
- Statistical Computing and Functional Programming
  - Lisp-family Languages (Clojure) for AI-compatible Functional Design
  - Immutable Data Structures and Concurrent Processing
- Novel Machine Learning Paradigms
  - Wolfram's Discrete Rule Array Models and Elementary Cellular Automata
  - Evolutionary Algorithms in Vertically Layered Rule Arrays

RESEARCH PROJECTS AND GRANTS

Graduate Research Assistant ***Spring 2024 – Present***

Center for Justice Research, BGSU

- Lead researcher on Toledo Crime Analysis Project, developing MLOps pipelines and predictive models
- Created interactive visualization tools for crime pattern analysis using R Shiny
- Implemented Meta's Prophet model for time-series forecasting of neighborhood-level crime trends
- Developed automated data processing pipelines for police department data

Graduate Research Assistant ***Spring 2021 – Summer 2021***

Office of International Programs & Partnerships, BGSU

- Conducted research on international education programs and cross-cultural learning
- Analyzed program effectiveness and student outcomes

Graduate Research Assistant ***Summer 2017 – Summer 2018***

Dean's Office of Assessment and Accreditation, BGSU

- Coordinated data collection and assessment for College of Education initiatives
- Analyzed demographic data and program outcomes for accreditation purposes
- Developed assessment tools for measuring educational effectiveness

PUBLICATIONS OR EQUIVALENCIES

Publications

Conference Presentations

- "Forecasting Crime Trends in Toledo, Ohio: A Prophet-Based Modeling Approach" ***March 2025***
  Academy of Criminal Justice Science 62nd Annual Meeting
  - Presented research utilizing Meta's Prophet model for neighborhood-level crime forecasting
  - Analyzed six crime categories across Toledo census tracts using daily and monthly data

– Demonstrated machine learning applications for law enforcement policy decisions

Technical Blog Publication

- "Brain Tumor Detection with Topological Data Analysis and MLOps" ***2024***

YouTube Presentations

- PCA in Clojure with Neanderthal ***2024***
- MLOps and Topological Analysis for Brain Tumor Detection ***2024***
- Mall Customer Cluster Analysis ***2021***
- Regression Analysis: State Spending on Education ***2021***
- Power BI - Date Granularity Slicer ***2021***
- Tableau - Dynamic Parameters ***2021***
- Absenteeism and Engagement ***2021***

Equivalencies

- **Tract-Level Crime Forecasting with Prophet** ***Spring 2025***
  - Developed time-series forecasting models for six crime categories across Toledo neighborhoods
  - Implemented Meta's Prophet model to capture seasonal patterns and holiday effects
  - Will be presenting findings at 2025 Academy of Criminal Justice Science Conference
- **Statistical Computing in Clojure** ***Fall 2024***
  - Implemented PCA algorithms using functional programming paradigms
  - Developed statistical computing methods with focus on numerical stability
  - Created educational materials for functional programming in data science
- **Toledo Crime and Demographics Interactive Dashboard** ***Spring 2024***
  - Developed R Shiny application for visualizing crime and demographic patterns
  - Integrated police department data with census tract information
  - Created interactive maps and time-series visualizations

PAPERS READ TO PROFESSIONAL SOCIETIES

Invited Papers

- "Forecasting Crime Trends in Toledo, Ohio: A Prophet-Based Modeling Approach"
  Academy of Criminal Justice Science 62nd Annual Meeting (Upcoming, 2025)

SERVICE

Department

- Executive Director, EMCU TV YouTube Channel (2022-2023)
- Created Electronic Journal Website for EMCU Publications (2023)

University

- Graduate Student Senate Representative, Department of Data Science (2024-Present)
- Program Coordinator, Teaching Excellence and Achievement (TEA) Program (2018)
- Program Coordinator, Young African Leaders Initiative (YALI) (2017)

Community

- Peace Corps Volunteer (Eswatini 2022-2023 & Malawi 2014-2016)

RESEARCH OR PROFESSIONAL CONSULTANTSHIPS

- Risk International - Data Analytics Consultant (2021-2022)
  - Provided risk management data analysis and TCOR benchmarking
  - Developed insurance program management and reviews
  - Conducted strategic broker relationship management

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS

Professional Affiliations

- Academy of Criminal Justice Science (2024-Present)
- Graduate Student Senate, BGSU (2024-Present)
- Japan Exchange and Teaching Alumni Association (2020-Present)
- Peace Corps Alumni Association (2014-Present)