Janelle Domantay

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EDUCATION

University of Illinois Urbana-Champaign — Urbana, IL
Ph.D. in Computer Science, Artificial Intelligence — Exp. April 2027

University of Nevada, Las Vegas | *Summa Cum Laude* — Las Vegas, NV
B.S. in Computer Science, Math Minor (Honors), GPA 3.74/4.0 — Dec 2021

RESEARCH EXPERIENCE

Department of Energy SULI | Internship — Golden, CO
Researcher, Advisor: Julianne Mueller — Jun 2023 - Jul 2023

Department of Energy/ MSIPP-NNSA | Internship — Las Vegas, NV
Student Researcher, Advisors: Yoohwan Kim and Ju-Yeon Jo — Sep 2021 - Dec 2021

- Surveyed IIoT and SCADA attack incidents and vulnerabilities
- Researched relevance of machine learning solutions in cybersecurity
- Proposed procedures and datasets for implementing deep learning into attack detection for SCADA and IIoT

North Carolina State University | Research Experience for Undergraduates — Raleigh, NC
Student Researcher, Advisor: Arnav Jhala — May 2021 - Jul 2021

- Studied how color and saturation affects human attention and memory on comic panels
- Leveraged gaze tracking software to automate data analysis and visualization pipeline
- Created web pages using HTML, Javascript, and CSS to collect experimental data remotely

University of Nevada, Las Vegas | Honors Research Thesis — Las Vegas, NV
Principal Investigator, Advisors: Brendan Morris, William Doyle, Jorge Fonseca — Jan 2021 - Dec 2021

- Employed Keras for data analysis, and open-source facial analysis tool-kits for feature extraction
- Constructed scripts to extract frames from video data and preprocess relevant numerical features
- Attained 96% classification accuracy for drowsiness detection models with a processing time of approximately 2 ms

Center for Accelerating Operational Efficiency | Co-op — Las Vegas, NV
Student Researcher — Jun 2019

- Collected data at airport checkpoints via time studies and passenger interviews
- Developed process efficiency improvements at McCarran International airport using time studies & Arena models
- Presented findings, Arena simulations, and recommendations for novel security protocols to McCarran associates for wait-time optimization

PUBLICATIONS AND PREPINTS

Domantay, J & Morris, B. (2022). How Facial Features Convey Attention In Stationary Environments. *Spectra Undergraduate Research Journal,* 2(2), 66-88.

Carbonero, A., Domantay, J., & Guthrie, K. (2022). The Optimization of Signed Trees. *The Australasian Journal of Combinatorics,* 84(1), 111-123.

RELEVANT SKILLS

Machine Learning, Reinforcement Learning, Computer Vision
C, C++, C#, Python, SQL, Java, JavaScript, HTML, LaTex, SQL, R, MatLab
Tensorflow, Sci-kit, Entity, Kendo UI, ASP .NET MVC, JQuery, Tortoise SVN, Jupyter, Git

WORK EXPERIENCE

JCM Global Las Vegas, NV
Software Engineer Jan 2022 - Aug 2022

- Leveraged .NET MVC application to visualize and manipulate business metrics for electronic gaming machine management
- Designed SQL schema and queries to facilitate data access for client applications and customization
- Debugged and designed features for Android application UI/API
- Administered stress tests to server environments to simulate casino data to identify and address issues with application functionality and memory consumption

AWARDS AND HONORS

Research and Creative Honors (2nd Place), UNLV
Undergraduate Research Stimulus Program, 2021, UNLV ($1,500)
Best Poster Award in Health & Natural Science & Engineering, 2021, UNLV
Devil's Invent: Hardening of Soft Targets Design Competition (2nd Place), 2021

RESEARCH PRESENTATIONS

Honors College Thesis Defense. *How facial features convey attention in stationary environments,* PowerPoint presentation. Las Vegas, Nevada. November, 2021.
Fall Undergraduate Research Symposium of UNLV. *How facial features convey attention in stationary environments,* Podium presentation. Las Vegas, Nevada. November, 2021
Summer 2021 Undergraduate Research & Creativity Symposium. *Impact of Color Saturation on Gaze in Comic Panels*, Poster presentation. Raleigh, North Carolina. July, 2021. Copresented with: Koelsch J.
Fred and Harriet Cox Senior Design Competition. *Lief's Ascent,* PowerPoint presentation. Las Vegas, Nevada. May, 2021. Copresented with: Articulo R. W., Cabahit D., Cano L. A., McHenry-Kroetch L., & Yarmak L.
Spring Undergraduate Research Symposium of UNLV. *Modeling COVID-19 Infection Rates Using SIR and ARIMA Models*, Poster presentation. May, 2021. Las Vegas, Nevada. Copresented with: Taksheyev V. & Pivavaruk I. Best Poster Award
Honors College Thesis Proposal Defense. *How Facial Features and Head Gesture Convey Employee Attention in Stationary Work Environments,* PowerPoint presentation. Las Vegas, Nevada. April, 2021.
Devil's Invent: Hardening of Soft Targets. *Securivision,* PowerPoint presentation. Remote. March, 2021. Copresented with: Obata D. & Mann. Y.
Math For All Conference. *The Optimization of a Signed Tree,* Poster presentation. New Orleans, Louisiana. March, 2021. Copresented with: Guthrie K.
Fall Undergraduate Research Symposium of UNLV. *The Optimization of a Signed Tree,* Poster presentation. Las Vegas, Nevada. November, 2021. Copresented with: Guthrie K.