

## ROSLYN WILLOUGHBY

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### EDUCATION

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**Washington State University**  
BA, Social Science

**Pullman, WA**  
Dec 2025

GPA: 3.75/4.00, magna cum laude  
McCroskey Scholar

Research Interest: AI and Ethics

Relevant Coursework: Probability & Statistics, Python Programming, Statistics in Psychology

### SKILLS

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*Programming & Data Processing:* Python, SQL, R, Tableau, Excel

*Computational Modeling and Analysis:* ANOVA, Logistic Regression, Multi-objective optimization

*Machine Learning:* Supervised classification, model characterization and evaluation including LLMs and GNNs

*Network & Behavioral Analysis:* Social network analysis (Gephi), stakeholder analysis

*Relevant Training:* NVIDIA Fundamentals of Deep Learning, UC Davis Social Network Analysis, System Design, Presentation and Public Speaking

### RESEARCH EXPERIENCE

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#### **WSU / NIH Training in Gerontechnology**

Research Intern

Advisor: Dr. Diane Cook & Prof. Maureen Schmitter-Edgecombe

**Pullman, WA**

January 2026 - Present

- **Collaborated across computer science and neuropsychology teams** to integrate smart-environment and wearable sensor data with clinical cognitive assessments, enabling earlier and more reliable identification of functional decline patterns associated with cognitive impairment.
- **Gained hands-on training in advanced gerontechnology methodologies**, including multimodal sensor fusion, longitudinal behavioral pattern modeling, and the application of machine learning techniques to aging-related health data.

#### **WSU / Laboratory for Understanding Nocturnal behaviors and Affect (LUNA)**

Research Intern

Advisor: Prof. Christine So

**Pullman, WA**

August 2025 - December 2025

- **Managed and analyzed multimodal sleep data** within a study investigating sleep-related biomarkers of cognitive impairment in aging adults, ensuring accurate data collection and protocol adherence.
- **Coordinated wearable technology deployment**, onboarding and training participants on Muse EEG headbands and Apple Watch devices to support high-quality longitudinal data acquisition.

#### **USDA Research Division | WSU Phenomics Lab**

Data Science Intern

Advisor: Prof. Lisa DeVetter & Dr. Sindhuja Sankaran

**Mt. Vernon, WA**

April 2024 - August 2024

- **Developed a phenomic dataset from computer-vision–extracted RGB** color metrics within a raspberry breeding project aimed at improving trait evaluation and breeder decision-making.
- **Fine-tuned a Large Language Model (LLM)** to translate quantitative phenomic outputs into breeder-facing interpretations, and characterized the efficacy of AI-generated suggestions with respect to domain expertise.

- **Evaluated model performance against expert-guided responses** and measured stakeholder confidence shifts following LLM interaction, demonstrating improved interpretability and increased trust in phenomic decision-support tools.
- **Presented findings to 50+ researchers and agricultural stakeholders**, facilitating interdisciplinary discussion on AI adoption in applied breeding systems.

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## PROJECT EXPERIENCE

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### US Movie Revenue Case Study / WSU / Probability & Statistics

*Data Analyst*

**Pullman, WA**

*December 2025*

- Analyzed financial performance data from 2006 U.S. films to test common industry claims about profitability using confidence intervals and hypothesis testing, statistically rejecting the claim that average return on investment was 12%.
- Built multiple regression models to determine which film characteristics (genre, rating, sequel status, release timing, distribution scale, critic scores) predicted opening-weekend and total box-office revenue.
- Identified key revenue drivers through model refinement, showing that number of opening theaters and sequel status predicted opening revenue, while critic ratings and opening gross explained ~80% of total domestic revenue variation.

### Public Health Prediction Model

*Student Researcher*

*Advisor: Azam Boskabadi*

**Pullman, WA**

*June - August 2025*

- Designed and implemented an end-to-end predictive modeling pipeline, applying systematic preprocessing, feature engineering, and model validation techniques to a cervical cancer risk factors dataset in a public health context, resulting in a rigorously validated classification analysis supported by cross-validation, ROC-AUC evaluation, and diagnostic performance assessment.

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## WORK EXPERIENCE

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### WSU Disability and Accessibility Services

*Accommodations Coordinator*

**Pullman, WA**

*August 2023- December 2025*

- Led recruitment and supervision of 20+ academic support specialists while coordinating accommodations for 150+ students per term, improving service quality, compliance, and timely access to resources.
- Partnered with administrative leadership to resolve complex accessibility and compliance cases, streamlining case resolution and strengthening institutional adherence to disability standards.
- Implemented assistive technologies and developed structured tracking systems serving ~2,000 students, increasing accessibility adoption and reducing processing delays across campuses.

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## HONORS AND AWARDS

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President's Honor Roll | Washington State University

2024, 2025

Delegate, Harvard Project for Asian and International Relations, Harvard University, Cambridge, MA

2024

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## ABSTRACTS AND PRESENTATIONS

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1. Willoughby, R. Phenomics Tools in Raspberry Breeding: Color Perception and AI-Driven Strategies for Enhancing Breeder Adoption. *REEU Research Symposium*, Washington State University, Pullman, WA. August 1, 2024. Oral Presentation.
2. Willoughby, R. Operationalizing Equity: Data-Driven Strategies in Disability and Accessibility Services. *WSU Access Center*, Washington State University, Pullman, WA. April 2025. Oral Presentation.