

EDUARDO DAVALOS

GRADUATE RESEARCH ASSISTANT



ABOUT

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WEB DEV

ADVANCE

FRONT END DEVELOPMENT
BACK END DEVELOPMENT &
INFRASTRUCTURE
COMPUTER NETWORKING
IOT DEVICES

DATA SCIENCE

ADVANCE

MACHINE LEARNING
DEEP LEARNING
REINFORCEMENT LEARNING
COMPUTER VISION
NATURAL LANGUAGE
PROCESSING

DATA ENGINEERING

ADVANCE

DATA STREAMING
END-TO-END DATA PIPELINES
MULTIMEDIA DATA
PROCESSING
DATA VISUALIZATION

LANGUAGES

ENGLISH (NATIVE SPEAKER)
SPANISH (FLUENT)

EXPERIENCE

FULLSTACK SOFTWARE ENGINEER - INTERN 05/2019 - 07/2019

Developed a web application to help the American Red Cross to manage their emergency stations

- python
- wordpress
- edge devices

ROBOTICS TEACHING ASSISTANT 05/2016 - 07/2016

Mentored, directed, and guided students throughout a summer program, teaching them the principles of robotics.

- mentorship
- robotics

PROGRAMMING AND PHYSICS TUTOR 07/2016 - 03/2018

Instructed and guided students in programming and physics courses, helping them to understand complex concepts and improve their grades.

- tutor
- programming
- physics

EDUCATION

VANDERBILT UNIVERSITY, NASHVILLE, TN, USA 08/2021 - INVALID DATE
PHD IN COMPUTER SCIENCE COMPUTER SCIENCE

ST.MARY'S UNIVERSITY, SAN ANTONIO, TX, USA 07/2019 - 04/2021
MS IN ELETRICAL ENGINEERING ELECTRICAL ENGINEERING

ST.MARY'S UNIVERSITY, SAN ANTONIO, TX, USA 07/2015 - 04/2019
BS IN ELETRICAL ENGINEERING ELECTRICAL ENGINEERING

PUBLICATIONS

GAZEVIZ: A WEB-BASED APPROACH FOR VISUALIZING LEARNER GAZE IN AN EDUCATIONAL ENVIRONMENT

ICCE 2024

Developed a web-based approach for visualizing learner gaze patterns in online educational environments, dashboard design, and scalable eye-tracking visualization.

3D GAZE TRACKING FOR STUDYING COLLABORATIVE INTERACTIONS IN VIRTUAL ENVIRONMENTS

ICMI COMPANION 2024

Developed computational pipeline leveraging from off-the-shelf computer vision algorithms to process gaze data in virtual reality environments.

MULTIMODAL METHODS FOR ANALYZING LEARNING AND TRAINING IN VIRTUAL ENVIRONMENTS: A SYSTEMATIC LITERATURE REVIEW

ARXIV

Conducted a systematic literature review on multimodal methods for analyzing learning and training in virtual environments and the understanding of advanced analytical techniques in educational settings.

A FIRST STEP USING MACHINE LEARNING METHODS TO ENHANCE INTERACTIONS IN EMBODIED LEARNING ENVIRONMENTS

AIED 2024

Developed AI techniques and software tools to analyze multimodal data from embodied learning environments for interaction analysis.

MONOCULAR MICROSCOPE TO CT REGISTRATION USING POSE ESTIMATION FOR AUGMENTED REALITY COCHLEAR IMPLANT SURGERY

SPIE MEDICAL IMAGING 2024

Developed a computational pipeline leveraging from off-the-shelf computer vision algorithms to process data in mixed-reality environments.

CHIMERAPY: A SCIENTIFIC DISTRIBUTED STREAMING FRAMEWORK FOR MULTIMODAL DATA RETRIEVAL AND PROCESSING

IEEE BIG DATA 2023

Created a multimedia data processing framework for real-time data retrieval and processing in cloud environments.

IDENTIFYING GAZE BEHAVIOR EVOLUTION VIA TEMPORAL FULLY-WEIGHTED GRAPHS

LAK 2023

Identified gaze-based behaviors along the temporal dimension through the use of graphs involving gaze data in virtual reality environment.

PREDICTION OF STUDENTS' SELF-CONFIDENCE USING MULTIMODAL DATA IN A VIRTUAL EXPERIENTIAL NURSE TRAINING ENVIRONMENT

AIED 2023

Developed predictive models using multimodal data (eye gaze and speech patterns) to accurately predict self-confidence in simulation-based nurse training environments.

A TALE OF TWO NURSES: STUDYING GROUPWORK IN NURSE TRAINING ENVIRONMENTS: TASKWORK ROLES, SOCIAL INTERACTIONS, AND SELF-EFFICACY

COMPUTER-SUPPORTED COLLABORATIVE LEARNING CONFERENCE, CSCCL

Analyzed a mixed-reality, simulation-based training exercise involving three nurses, performing contrast strategies used when patients expressed doubts about their care. Demonstrated connections between self-efficacy, and teamwork.

USING THE DICOT FRAMEWORK FOR INTEGRATED MULTIMODAL ANALYSIS IN VIRTUAL TRAINING ENVIRONMENTS

FRONTIERS IN ARTIFICIAL INTELLIGENCE 2022

Developed a computational pipeline leveraging from off-the-shelf computer vision algorithms to mixed-reality environments.

ADAPTIVE SCAFFOLDING TO SUPPORT STRATEGIC LEARNING IN AN O ENVIRONMENT

2022

Developed an adaptive scaffolding framework for Betty's Brain, an open-ended learning-by-teac includes an online strategy detector and a conversational adaptive feedback mechanism to supp Conducted a pilot study with undergraduate students, analyzing activity logs, interactions, and e behaviors and performance.