

ALICIA ESQUIVEL MOREL

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EDUCATION

University of Missouri Columbia - Missouri, USA	Doctorate in Computer Science (PhD CS) Expected graduation date: Fall 2025 - GPA: 3.7/4.0
University of Missouri Columbia - Missouri, USA	Master of Science in Computer Science (MS CS) 2018-2020 - GPA: 3.7/4.0



RESEARCH INTERESTS

Management and deployment of distributed Cloud Computing applications | Internet of Things (IoT) based Visual Cloud Computing | Testbeds deployment and design of experiments | Network performance Measurement and Monitoring | Cyber Security for critical application infrastructure



TECHNICAL SKILLS AND EXPERIENCE

Matlab • C • Python • Cloud Computing • Network deployment • DevOps • Amazon Web Services • Google Cloud • Design of Experiments • Problem Solving • Technical Writing • Presentation Skills • Applied Research • Data Analysis • Testing • Cross-functional Team Leadership • Graphic Design • UX • Linux • Mac OS, Windows



EMPLOYMENT HISTORY

University of California, Santa Cruz May – August 2024
Senior Fellow Summer of Reproducibility (SoR)

Open Source Program Office, Summer of Reproducibility (SoR) project to improve user experience UX for researchers uploading reproducible artifacts to Chameleon Trovi. By addressing the current limitations, researchers are able to replicate experiments more efficiently, fostering greater reliability and reproducibility in research findings.

University of Chicago - Chicago, IL
Research Assistant - Chameleon Cloud May – August 2023

Research involving infrastructure deployment, use case scenarios, establishing testbeds, tools and methodologies for CHI@Edge, container-based platform for deploying IoT fleets.

University of Missouri - Columbia, MO
Graduate Research Assistant - VIMAN Lab January 2020 – Present

Research involving drone video analytics applications, security in the communication, network-edge and computation in drones. Simulation frameworks, testbeds and hybrid deployments.

<i>Graduate Teaching Assistant - University of Missouri College of Engineering</i>	
CS4550 / 7550 - Cyber Defense [Undergraduate and Graduate class ~70 students]	August 2024 - Present
CS4530 / 7530 - Cloud Computing [Undergraduate and Graduate class ~70 students]	January 2024 - May 2024
CS2050 - Algorithm Design and Programming II [Undergraduate class ~300 students]	August - December 2023
CS4530 / 7530 - Cloud Computing [Undergraduate and Graduate class ~70 students]	January – May 2023
CS1050 - Algorithm Design and Programming I [Undergraduate class ~300 students]	August 2021 – May 2022
CS2830 - Web Development I [Undergraduate class ~300 students]	August – December 2019

Assisting with teaching, grading and administering exams, working with students, and other duties as assigned, including assistance on other projects for the class.

University of Missouri - Columbia May - August 2020
Mentor and Student Coordinator REU - Consumer Networking Technologies May - August 2021
May - August 2022

Software-defined networking/virtualization, visual computing at the network edge, social virtual reality, mobile sensing & environment recognition.

ACM Student Research Competition Accepted to SC 2023, November 12–17, 2023, Denver, CO

- Road To Reliability: Optimizing Self-Driving Consistency With Real-Time Speed Data.
- Chasing Clouds with Donkeycar: Holistic Exploration of Edge and Cloud Inferencing Trade-Offs in E2E Self-Driving Cars.

ACM Student Research Competition Accepted to SC 2024, November 17–22, 2024, Atlanta, GA

- Edge-Enabled Real-Time Data Processing in Power-Efficient Weather Stations Using IBIS
- 5G in Practice: Measuring Emerging Wireless Technology in Rural Iowa for Edge Devices in Distributed Computation Workloads
- Prototype Development and Testing of a Smart Buoy System for Coastal and Marine Ecosystems Using IBIS
- Meteorologic Real-Time Extreme Learning Machine for Pressure Prediction



PUBLICATIONS AND RESEARCH WORK

Arculus: Zero Trust for Situational Awareness Tasks in Tactical Edge Networks 2024

Alicia Esquivel Morel, Ekinan Ufuktepe, Saketh Poduvu, Durbek Gafurov, Kannappan Palaniappan, Prasad Calyam
IEEE Transactions on Network and Service Management, Under Review

Enhancing drone video analytics security management using the AERPAW testbed 2024

Alicia Esquivel Morel, Zack Murry, Kevin Kostage, Chengyi Qu, Prasad Calyam

IEEE CNERT-WORKSHOP, Conference on Computer Communications Workshops (INFOCOM WKSHPS)

Encoding Consistency: Optimizing Self-Driving Reliability With Real-Time Speed Data 2024

Fowler, William, Alicia Esquivel Morel, and Kate Keahey

FRAME 4th workshop on Flexible Resource and Application Management on the Edge

AutoLearn: Learning in the Edge to Cloud Continuum 2023

Alicia Esquivel Morel, William Fowler, Kate Keahey, Kyle Zheng, Michael Sherman, and Richard Anderson
IEEE/ACM International Workshop on Education for High Performance Computing [EduHPC]

Risk-based Zero Trust Scale for Tactical Edge Network Environments 2023

Saketh Poduvu, Sayed M. Saghaian N. E., Ekinan Ufuktepe, Alicia Esquivel Morel, and Prasad Calyam
IEEE/ACM Symposium on Edge Computing (SEC)

FlyNet: Drones on the Horizon 2023

Alicia Esquivel Morel, Chengyi Qu, Prasad Calyam, Cong Wang, Komal Thareja, Anirban Mandal, Eric Lyons, Michael Zink, George Papadimitriou, and Ewa Deelman
IEEE Internet Computing

Experiments on Network Services for Video Transmission using FABRIC Instrument Resources [Workshop Best Paper Runner Up] 2023

Alicia Esquivel Morel, Durbek Gafurov, Prasad Calyam, Cong Wang, Komal Thareja, Anirban Mandal, Eric Lyons, Michael Zink, George Papadimitriou, and Ewa Deelman

Trust Quantification in a Collaborative Drone System with Intelligence-driven Edge Routing 2023

Alicia Esquivel Morel, Ekinan Ufuktepe, Cameron Grant, Samuel Elfrink, Chengyi Qu, Prasad Calyam, and Kannappan Palaniappan
IEEE/IFIP Network Operations and Management Symposium (NOMS)

Transmitting Information with Global-designation of Emergency Routes for Edge Video Processing 2023

Michael Miller, Anvitha Ramachandran, Alicia Esquivel Morel, Durbek Gafurov, and Prasad Calyam
IEEE/IFIP Network Operations and Management Symposium (NOMS)

Network Services Management using Programmable Data Planes for Visual Cloud Computing 2023

Alicia Esquivel Morel, Prasad Calyam, Chengyi Qu, Durbek Gafurov, Cong Wang, Komal Thareja, Anirban Mandal, Eric Lyons, Michael Zink, George Papadimitriou, and Ewa Deelman
International Conference on Computing, Networking and Communications (ICNC)

Automating Edge-to-Cloud Workflows for Science: Traversing the Edge-to-Cloud Continuum with Pegasus	2022
Ryan Tanaka, George Papadimitriou, Sai Charan Viswanath, Cong Wang, Eric Lyons, Komal Thareja, Chengyi Qu, Alicia Esquivel Morel , Ewa Deelman, Anirban Mandal, Prasad Calyam, Michael Zink 22nd IEEE International Symposium on Cluster, Cloud and Internet Computing (CCGrid).	
Location Prediction and Trajectory Optimization in Multi-UAV Application Missions	2022
Singh, Rounak, Chengyi Qu, Alicia Esquivel Morel , and Prasad Calyam Intelligent Unmanned Air Vehicles Communications for Public Safety Networks	
Learning-based Multi-Drone Network Edge Orchestration for Video Analytics	2022
Qu, Chengyi, Rounak Singh, Alicia Esquivel Morel , and Prasad Calyam INFOCOM 2022-IEEE Conference on Computer Communications. IEEE, 2022	
Obstacle-Aware and Energy-Efficient Multi-Drone Coordination and Networking for Disaster Response	2021
Chengyi Qu, Rounak Singh, Alicia Esquivel Morel , Francesco Betti Sorbelli, Prasad Calyam, Sajal K Das 2021 17th International Conference on Network and Service Management (CNSM)	
Using ns-3 with the POWDER wireless testbed	2021
Tom Henderson, Alicia Esquivel Morel WNS3 2021 Tutorials	
Enhancing Network-edge Connectivity and Computation Security in Drone Video Analytics	2020
Alicia Esquivel Morel , Deniz Kavzak Ufuktepe, Robert Ignatowicz, Alexander Riddle, Chengyi Qu, Prasad Calyam, Kannappan Palaniappan 2020 IEEE Applied Imagery Pattern Recognition Workshop (AIPR)	
Dronenet-sim: A learning-based trace simulation framework for control networking in drone video analytics	2020
Chengyi Qu, Alicia Esquivel Morel , Drew Dahlquist, Prasad Calyam Proceedings of the 6th ACM Workshop on Micro Aerial Vehicle Networks, Systems, and Applications	
Design of trace-based NS-3 simulations for UAS video analytics with geospatial mobility	2020
Chengyi Qu, Alicia Esquivel Morel , Drew Dahlquist, Prasad Calyam Geospatial Informatics X - International Society for Optics and Photonics	



PROFESSIONAL SERVICE

Student Employee Advisory Board	Fall 2023-Present
Member, Student Employee Advisory Board, University of Missouri - Columbia	
Serve as peer-reviewer of several international IEEE/ACM conferences and journals	
Globecom · TNSM · Wi-DroIT · IEEE ETT · IEEE TDSC · FGCS · COMNET · IJNM · JPDC IEEE SECON · CNSM · IPCCC - IEEE · IEEE ICC - NGNI Symposium · UCC	



PROFESSIONAL AFFILIATIONS

ACM Association for Computing Machinery	2023-Present
Special Interest Group on High Performance Computing (SIGHPC)	
IEEE	2021-Present
Communications Society (ComSoc), Young Professionals, Communications Society, Women in Engineering	
Epsilon Pi Epsilon	2021-Present
Honor Society for the Computing and Information Disciplines	



SCHOLARSHIPS AND TRAVEL GRANTS

National Science Foundation (NSF)-sponsored travel grants

2022-2024

MERIF (Midscale Experimental Research Infrastructure Forum) community workshop - *Kansas City, MO*

FABRIC KNIT7 (Keeping Networks Innovative Together) community workshop - *Kansas City, MO*

AraFest'24 | ARA Annual Community Event - *Ames, IO*

POWDER-RENEW Mobile and Wireless Week - *Salt Lake, UT*

FABRIC KNIT5 (Keeping Networks Innovative Together) community workshop - *Chicago, IL*

IEEE ICC 2022 [IEEE International Conference on Communications] conference - *Honolulu, HI*

Electrical Engineering and Computer fellowship award, University of Missouri

2022

Student travel EECS fellowship award

U.S. Department of State's Bureau of Educational and Cultural Affairs.

Fulbright-CAL Scholarship, LASPAU Administered

2018-2020

Fulbright Intensive English Program, IIE Administered

2018-2020

United States Embassy in Paraguay

2022-2024

Hayes Scholarship - English Micro scholarship Program for Advanced level courses



AWARDS AND RECOGNITIONS

Electrical Engineering Department, University of Missouri

2024

Outstanding Ph.D. student Award

Department of Defense University Consortium for Cybersecurity (DoD-UC2)

2022

Top three white paper request winner for information (RFI) to the academic community on new cyber technologies pertaining to the topic of implementing zero trust at the tactical warfighting edge

Upsilon Pi Epsilon (UPE)

2021

The International Honor Society for the Computing and Information Disciplines