

ALICIA ESQUIVEL MOREL

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🌐 <https://alicesquivel.github.io/>



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

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



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

January 2020 – Present

Conduct research on drone video analytics, network-edge security, and hybrid deployments using simulation frameworks and testbeds.

Graduate Teaching Assistant

Aug 2019 – Present

Assisted in Cyber Defense, Cloud Computing, Algorithm Design and Programming 1 & 2, Web Development for Undergraduate and graduate classes (70–300 students).

Responsibilities included teaching support, grading, exams, and student mentoring.

University of Missouri - Columbia

Mentor and Student Coordinator REU - Consumer Networking Technologies

May - August 2020

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	