

## EDUCATION

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### **University of Southern California**

*Ph.D. in Computer Science; GPA: 4.0*

Los Angeles, CA

*Aug 2020 – May 2024*

Dissertation: Dispersed Computing in Dynamic Environments

Advisor: Bhaskar Krishnamachari

### **California State University, Long Beach**

*Master of Science in Computer Science; GPA: 4.0*

Long Beach, CA

*Aug 2018 – May 2020*

*Bachelor of Science in Computer Science; GPA: 3.6*

*Aug 2013 – May 2018*

Thesis: Minimizing The Maximum Distance Traveled To Form Patterns With Systems of Mobile Robots

Advisor: Oscar Morales-Ponce

## RESEARCH INTERESTS

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Cooperative multi-agent systems, distributed computing, decentralized computing, online algorithms, distributed ledger technology, internet of things (IoT), artificial intelligence (AI), and large language models (LLMs) for language education and endangered language revitalization.

## EXPERIENCE

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### **Loyola Marymount University**

*Assistant Professor*

Los Angeles, CA

*Aug 2024 – Present*

### **The Aerospace Corporation**

*Member of the Technical Staff*

El Segundo, CA

*Mar 2020 – Jun 2024*

*Associate Member of the Technical Staff*

*Sep 2018 – Mar 2020*

*Intern*

*Jan 2018 – Aug 2018*

- Design software and algorithms for rapidly developing scalable, modular, and efficient analyses for launch vehicle verification in simulation, day-of-launch, and post-flight environments.

### **CSULB Research Foundation**

*Student Research Assistant*

Long Beach, CA

*Mar 2017 – May 2018*

- Developed software and simulations for systems of cooperative robots.

### **Big Pine Paiute Tribe of the Owens Valley**

*IT Intern*

Big Pine, CA

*May 2014 – Aug 2014*

- Organized computer skills workshops for high school students in a tribal work experience program
- Developed membership management software for the tribal wellness center

## TEACHING EXPERIENCE

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### **Distributed Systems & the Internet of Things**

*Teaching Assistant*

Los Angeles, CA

*Spring 2023*

### **Principles of Software Engineering**

*Teaching Assistant*

Los Angeles, CA

*Fall 2020*

### **Organization of Programming Languages**

*Teaching Assistant*

Long Beach, CA

*Spring 2020*

### **Object-Oriented Application Development**

*Teaching Assistant*

Long Beach, CA

*Spring 2020*

### **Speaking**

*English Teacher*

Itajubá, MG, Brazil

*2016*

## PROFESSIONAL SERVICE

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<b>SC24 — International Conference for HPC, Networking, Storage, and Analysis</b> <i>Technical Program Committee</i>	Atlanta, GA Nov 17-22, 2024
<b>Problem Solving with Cooperative Mobile Agent Systems</b> <i>Guest Lecture at Institute of Mathematics and Computer Science, USP, São Carlos</i>	São Carlos, Brasil April 26, 2023

## MENTORSHIP

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<b>Alex Sotiropoulos (Masters), Linus Lei (Undergrad)</b> <i>Crowdsourcing LLM Fine-Tuning</i>	2023
<b>Eric Cheng, Helen Hu, Max Li, Melanie Xiao Xuan Toh, Sana Jain (Undergrads)</b> <i>LanguageGames: open-source modular minigames for language education</i>	Fall 2023
<b>Eason Qin, Flora Jia, Lorena Yan (Undergrads)</b> <i>AskANRG: LLM-powered chatbots tailored for research groups</i>	Fall 2023
<b>Dominick Hart (High School)</b> <i>LLM-powered NPCs for language education through video games</i>	Summer 2023
<b>Ebrahim Hirani, Ravi Vivek Agrawal (Masters), Linus Lei, Sanjana Adapala (Undergrad)</b> <b>Saamarth Seth (High School)</b> <i>Python implementations of task graph scheduling algorithms</i>	2023
<b>Chely Fernandez (Undergrad)</b> <i>Blockchain-secured Industrial IoT</i>	2022
<b>Lorand Cheng (Undergrad)</b> <i>Search and Rescue on the Line</i>	2021
<b>Wanwiset Peerapatanapokin (Undergrad)</b> <i>Blockchain-secured Industrial IoT</i>	2020

## HONORS & AWARDS

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<b>Cobell Scholar</b> <i>The Cobell Scholarship</i> <i>Awarded to high-achieving, community-involved Native college students with leadership experience.</i>	2023-2024
<b>CPS Rising Star</b> <i>2023 CPS Rising Stars Workshop</i> <i>This workshop aims to identify and mentor outstanding PhD students and postdocs who are interested in pursuing academic careers in Cyber-Physical Systems (CPS) related areas</i>	2023
<b>First-Place Winner</b> <i>2nd Student Design Competition on Networked Computing on the Edge @ CPS IoT Week 2022</i> <i>Graph Convolutional Network-based Scheduler for Distributing Computation in the Internet of Robotic Things</i>	2022

## PUBLICATIONS

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- [16] **LLM-Assisted Rule Based Machine Translation for Low/No-Resource Languages**  
Jared Coleman, Bhaskar Krishnamachari, Khalil Iskarous, Ruben Rosales  
*AmericasNLP @ NAACL 2024 - 4th Workshop on NLP for Indigenous Languages of the Americas*
- [15] **Linear Search for an Escaping Target with Unknown Speed**  
Jared Coleman, Dmitry Ivanov, Evangelos Kranakis, Danny Krizanc, Oscar Morales-Ponce  
*IWOCA 2024 — 35th International Workshop on Combinatorial Algorithms*
- [14] **Online Allocation of Sensing and Computation in Large Graphs**  
Xinlin Li, Merve Karakas, Osama A. Hanna, Mehrdad Kiamari, Jared Coleman, Christina Fragouli, Bhaskar Krishnamachari, Gunjan Verma  
*IEEE CIC 2023 — International Conference on Collaboration and Internet Computing*

- [13] **DARSAN: A Decentralized Review System Suitable for NFT Marketplaces**  
*Sulyab Thottungal Valapu, Tamoghna Sarkar, Jared Ray Coleman, Anusha Avyukt, Hugo Embrechts, Dimitri Torfs, Michele Minelli, Bhaskar Krishnamachari*  
*ICBC 2023 — International Conference on Blockchain*
- [12] **Search and Rescue on the Line**  
*Jared Coleman, Lorand Cheng, Bhaskar Krishnamachari*  
*SIROCCO 2023 — International Colloquium on Structural Information and Communication Complexity*
- [11] **PhD Forum Abstract: Cooperative Problem-Solving with Systems of Constrained Mobile Agents**  
*Jared Ray Coleman*  
*IPSN 2023 — International Conference on Information Processing in Sensor Networks*
- [10] **Graph Convolutional Network-based Scheduler for Distributing Computation in the IoRT**  
*Jared Coleman, Mehrdad Kiamari, Lillian Clark, Daniel D’Souza, Bhaskar Krishnamachari*  
*MILCOM 2023 WS-7 — Workshop On The Internet Of Things For Adversarial Environments*
- [9] **Delivery to Safety with Two Cooperating Robots**  
*Jared Coleman, Evangelos Kranakis, Danny Krizanc, Oscar Morales-Ponce*  
*SOFSEM 2023 — International Conference on Current Trends in Theory and Practice of Computer Science*
- [8] **The Snow Plow Problem: Perpetual Maintenance by Mobile Agents on the Line**  
*Jared Coleman, Oscar Morales-Ponce*  
*ICDCN 2023 — International Conference on Distributed Computing and Networking*
- [7] **Line Search for an Oblivious Moving Target**  
*Jared Coleman, Evangelos Kranakis, Danny Krizanc, Oscar Morales-Ponce*  
*OPODIS 2022 — International Conference on Principles of Distributed Systems*
- [6] **Multi-Objective Network Synthesis for Dispersed Computing in Tactical Environments**  
*Jared Coleman, Eugenio Grippa, Bhaskar Krishnamachari, Gunjan Verma*  
*SPIE Defense + Commercial Sensing 2022*
- [5] **Network Synthesis for Tactical Environments: Scenario, Challenges, and Opportunities**  
*Tzanis Anevlavis, Jonathan Bunton, Jared Coleman, Mine Dogan, Eugenio Grippa, Abel Souza, Christina Fragouli, Bhaskar Krishnamachari, Matthew Maness, Karl Olson, Prashant Shenoy, Paulo Tabuada, Gunjan Verma*  
*SPIE Defense + Commercial Sensing 2022*
- [4] **Robotic Sorting on the Grid**  
*Jared Coleman, Oscar Morales-Ponce*  
*ICDCN 2022 — 23rd International Conference on Distributed Computing and Networking*
- [3] **Message Delivery in the Plane by Robots with Different Speeds**  
*Jared Coleman, Evangelos Kranakis, Oscar Morales-Ponce, Danny Krizanc*  
*SSS 2021 — 23rd International Symposium on Stabilization, Safety, and Security of Distributed Systems*
- [2] **The Pony Express Communication Problem**  
*Jared Coleman, Evangelos Kranakis, Oscar Morales-Ponce, Danny Krizanc*  
*IWOCA 2021 — 32nd International Workshop on Combinatorial Algorithms*
- [1] **Minimizing The Maximum Distance Traveled To Form Patterns With Systems of Mobile Robots**  
*Jared Coleman, Evangelos Kranakis, Oscar Morales-Ponce, Jorge Urrutia, Birgit Vogtenhuber*  
*CCCG 2020, 32nd Canadian Conference on Computational Geometry, August 5-7, 2020*

## PROJECTS

### Kubishi Sentences ([sentences.kubishi.com](https://sentences.kubishi.com))

LLM-powered sentence building and translation tools for the Owens Valley Paiute Language

2024

### ChatLang ([chatlang.net](https://chatlang.net))

An LLM-powered role-playing bot with parallel tutor assistance

2023

**GCN-Turtlebot ([github.com/ANRGUSC/gcnschedule-turtlenet](https://github.com/ANRGUSC/gcnschedule-turtlenet))**

*GCN-based Scheduler for Distributing Computation in the Internet of Robotic Things*

*First-place winner: 2nd Student Design Competition on Networked Computing on the Edge at CPS IoT Week 2022*

**Secure IIoT**

Industry Partner: Chevron

*Using blockchain technology to secure industrial IoT systems*

*2021-2023*

**Kubishi ([kubishi.com](https://kubishi.com))**

*An online dictionary and encyclopedia for Owens Valley Paiute language and culture*

*2020*

**Aerocube @ The Beach**

Industry Partner: The Aerospace Corporation

*Distributed robotics systems for space — a proof of concept*

*2017*