Jared Coleman

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SUMMARY & SKILLS

I have a broad interest in computer science. My research interests include distributed computing, internet of things (IoT), machine learning (ML), artificial intelligence (AI), blockchain, mobile robotics, discrete mathematics, computational geometry, and game theory.

Languages: Python, C/C++, Java, JavaScript

Technologies/Frameworks: Docker, Tendermint, Git, React, Gitpod

Graduate Courses: Advanced Algorithm Design, Distributed Systems, Formal Verification, Randomized Algorithms, Theory of Computation, High-Performance Computing, Programming Languages, Operating Systems

EDUCATION

University of Southern California — Los Angeles, CA
Ph.D. in Computer Science; GPA: 4.0 — *Aug 2020 – Present*

California State University, Long Beach — Long Beach, CA
Master of Science in Computer Science; GPA: 4.0 — *Aug 2018 – May 2020*
Bachelor of Science in Computer Science; GPA: 3.6 — *Aug 2013 – May 2018*

EXPERIENCE

The Aerospace Corporation — El Segundo, CA
Member of the Technical Staff — *Mar 2020 – Present*
Associate Member of the Technical Staff — *Sep 2018 – Mar 2020*
Intern — *Jan 2018 – Aug 2018*

- Design software that helps Aerospace rapidly develop scalable, modular, and efficient analyses for launch vehicle verification in simulation, day-of-launch, and post-flight environments.

CSULB Research Foundation — Long Beach, CA
Student Research Assistant — *Mar 2017 – May 2018*

- Developed software and simulations for systems of cooperative robots.

PUBLICATIONS

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

Search and Rescue on the Line
Jared Coleman, Lorand Cheng, Bhaskar Krishnamachari
SIROCCO 2023 - International Colloquium on Structural Information and Communication Complexity

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

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

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

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

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

Multi-Objective Network Synthesis for Dispersed Computing in Tactical Environments
Jared Coleman, Eugenio Grippo, Bhaskar Krishnamachari, Gunjan Verma
SPIE Defense + Commercial Sensing 2022

Network Synthesis for Tactical Environments: Scenario, Challenges, and Opportunities
Tzanis Anevlavis, Jonathan Bunton, Jared Coleman, Mine Dogan, Eugenio Grippo, Abel Souza, Christina Fragouli
Bhaskar Krishnamachari, Matthew Maness, Karl Olson, Prashant Shenoy, Paulo Tabuada, Gunjan Verma
SPIE Defense + Commercial Sensing 2022

Robotic Sorting on the Grid
Jared Coleman, Oscar Morales-Ponce
ICDCN 2022 - 23rd International Conference on Distributed Computing and Networking

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

The Pony Express Communication Problem
Jared Coleman, Evangelos Kranakis, Oscar Morales-Ponce, Danny Krizanc
IWOCA 2021 - 32nd International Workshop on Combinatorial Algorithms

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

ChatLang (eclipse.usc.edu/chatlang)
An LLM-powered role-playing bot with parallel tutor assistance   *2023*

Kubishi Sentences (sentences.kubishi.com)
An LLM-powered sentence builder/translator for the Owens Valley Paiute Language   *2023*

GCN-Turtlebot (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   Autonomous Networks Research Group & Chevron
Using blockchain technology to secure industrial IoT systems

Kubishi (kubishi.com)
An online dictionary and encyclopedia for Owens Valley Paiute language and culture   *2020*

Aerocube @ The Beach   CSULB & The Aerospace Corporation
Distrubuted robotics systems for space - a proof of concept   *2017*