Computer Engineering Department
San José State University
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CarlosRojas

Professional Employment

2019-present **Assistant Professor**, *San José State University*, San José, CA
Tenure-track position in the Computer Engineering Department.

2018-2019 **Postdoctoral Scholar**, *UC Davis Genome Center*, Davis, CA
Researcher in 3D genomic data with deep learning networks.

Summer 2014 **Software Engineering Intern**, *MobiTV*, Emeryville, CA
Worked on internal code generation tools and built screen saver for Android TV device.

Summer 2012 **Visual Computing Intern**, *Intel*, Folsom, CA
Optimized Unreal Game Engine frame rates.

2011-2018 **Graduate Researcher**, *UC Davis Computer Science*, Davis, CA
Graduate research in computational geometry.

Education

2011–2018 **Ph.D. computer science**, *University of California, Davis*, Davis, CA, USA
Advisor: Prof. Nina Amenta. Thesis: *Parameterization of Triangle Surface Meshes for Shape Analysis.*

2007–2011 **B.S. computer science**, *University of California, Davis*, Davis, CA, USA
Minor in Mathematics

Awards and Honors

2025 SJSU College of Engineering, Faculty Award for Excellence in Teaching

2024- Support, Regional K-16 Education Collaborative Grant Program for the Bay Area K-16 Collaborativee ($3,919,032)

2023- Co-PI, S-STEM: Empowering Low-Income Students to Succeed in Engineering and Computer Science ($2,499,411)

2024 PI, Davidson Student Scholar Award ($1,500)

2022,2024 PI, Research and Innovation Student RSCA Fellowship ($3,000)

2020-2022 Co-PI, San José State University College of Engineering Small Group Projects ($100,000)

2020 San José State University College of Engineering travel grant ($450)

2016-2017 Professors For The Future Fellowship from UC Davis ($3,000)

2014-2016 Travel Grant from UC Davis Computer Science Graduate Group ($3,000)

2012-2013 GEM Fellowship from The National GEM Consortium ($16,000 and one year of tuition)

Publications

2025 Fardin Haque and **Carlos Rojas**. A Comparative Study on Approaches to Denoise Hi-C Genomic Matrices. Fifth Annual Computer Science Conference for CSU Undergraduates (CSCSU). paper, 2025. Available: https://cscsu-conference.github.io/

2025 Meghana Indukuri and **Carlos Rojas**. A comprehensive literature review on enhancing Hi-C resolution with deep learning. Fifth Annual Computer Science Conference for CSU Undergraduates (CSCSU). paper, 2025. Available: https://cscsu-conference.github.io/

2024 Hardi Trivedi, Jorjeta Jetcheva **Carlos Rojas**. LLM-Based Localization in the Context of Low-Resource Languagest, IEEE AIxB 2024: International Conference on Artificial Intelligence x Business 2024, Invited Paper. 2024.

2024 William Andreopoulos, Dominic Lopez, **Carlos Rojas**, Vedashree Bhandare. Finding BERT Errors by Clustering Activation Vectors. Future Generation Computer Systems Journal, Paper. 2024.

2024 Pranav Chellagurki, Sai Prasanna Kumar Kumaru, Rahul Raghava Peela, Neeharika Yeluri, **Carlos Rojas**, Jorjeta Jetcheva. Biomedical Relation Extraction using LLMs and Knowledge Graphs. IEEE BigDataService, Paper. 2024.

2024 Stephanie Chau, **Carlos Rojas**, Jorjeta G. Jetcheva, Mary Markart, Sudha Vijayakumar, Sophia Yuan, Vincent Stowbunenko, Amanda N. Shelton, William B. Andreopoulos. On the synergies between ribosomal assembly and machine learning tools for microbial identification. Current Bioinformatics, Paper, 2024.

2023 **Carlos Rojas**, Gina Quan. Mastery Grading in a Software Engineering Course. 2023 ASEE Annual Conference & Exposition, Paper. 2023.

2022 Stephanie Chau, **Carlos Rojas**, Jorjeta G. Jetcheva, Sudha Vijayakumar, Sophia Yuan, Vincent Stowbunenko, Amanda N. Shelton, William B. Andreopoulos. Comparative evaluation of bioinformatics and machine learning methods for microbial identification. 35th Annual CSU Biotechnology Symposium, poster, 2023.

2020 Nina Amenta and **Carlos Rojas**. Dihedral Rigidity and Deformation. *Computational Geometry*, paper, 2020.

2018 **Carlos Rojas**, Minh N. Tran, Linh Huynh, and Fereydoun Hormozdiari. Machine learning approaches for comparative genome structure analysis. *American Society of Human Genetics*, poster, 2018.

2018 Nina Amenta, and **Carlos Rojas**. Dihedral Rigidity and Deformation. *Canadian Conference on Computational Geometry*, paper, 2018.

2014 **Carlos Rojas**, Alex Tsui, Stewart He, Lance Simons, Shengren Li, and Nina Amenta. Edge length interpolation. *ACM Symposium on Solid and Physical Modeling*, poster paper, 2014.

2011 **Carlos Rojas**, Scott Refugio. Automated Angiogenesis Quantification. *UC Davis College of Engineering Senior Design Showcase*, poster, 2011.

Service

University Service

2023 Peer Connections Faculty Fellow

2021 Mentor in Affinity Mentoring for Academic Success (AMAS)

2020-22,2024 Department website committee

2019-20,2023-24 Department undergraduate curriculum committee

2023-24 Chair Department undergraduate curriculum committee

2020 College graduate curriculum committee

2020 Chair Department graduate curriculum committee

University Panels

2022 Faculty Gradescope Workshop

2021 Breaking Down Barriers Among Faculty & Students

2021 Faculty Converation - Gradescope

2020 Workshop: How to use a stylus and a mobile device for whiteboard collaboration in Zoom

Workshop: Active learning for your remote teaching

Professional Service

2024 Session chair at IEEE International Conference on Big Data Service and Applications (BDS)

2021 co-chair of SVCC '21 UNiSEC Datathon

Bootcamp Code in 1 Day: Discover Hidden Patterns in Data

Mentor for WiDS Datathon

Reviewer

2024, 25 Computer Science Conference for CSU Undergraduates

2024 KDD 2024 Undergraduate Consortium

2021-25 IEEE International Conference on Big Data Service and Applications (BDS)

2021 International Journal of Data Science and Analytics (JDSA)

Sub-Reviewer

2019 ACM Conference on Bioinformatics, Computational Biology, and Health Informatics (ACM-BCB), 2019.

Intelligent Systems for Molecular Biology/European Conference on Computational Biology (ISMB/ECCB), 2019.

Research in Computational Molecular Biology (RECOMB), 2019.

Academic Advising

M.S. Thesis Supervised

Fall 2022
Title: Structural Variatins in 3D Genome
People: Sara Bell
Advisors: Drs. Wendy Lee, Carlos Rojas, and, William Andreopoulos

Fall 2021
Title: Effective Cancer Detection Using Higher-Order Genome Architecture and Chromatin Interactions
People: My Xuan Chung
Advisors: Drs. Wendy Lee, Carlos Rojas, and, William Andreopoulos

Spring 2021
Title: A Deep Learning Method for Comparing Hi-C Data
People: Sughosh Krishnamurthy

M.S. Projects Supervised

Spring 2022
Title: Machine Learning Based Recipe Finder
People: Dhaliwal Sabrina, Garrido Gaston, Minaise Anthony, Ngo Brandon

Spring 2021
Title: Qualitative Assessment with Machine Learning
People: Mitash Gaurh, Vasanthi Amoolya Koduri, Shalabh Neema, Mohammed Farhaan Patel

Fall 2020
Title: Hi-C Super-Resolution
People: Khang Doan, Raymond Hong, Koushik Kumar Kamala, Mrunali Sanjay Khandat

Fall 2020
Title: Uncertainty Visualization
People: Wei He, Tian Lan, Amir Hossein Radman

B.S. Projects Supervised

Spring 2022
Title: iSky: Vacation Planning
People: Anvay Bhanap, Jonathan Lu, Isaac Mcdonald, Richard Tran

Spring 2022
Title: EyeCU: Door Security Camera
People: Arash Bahramiandehkordi, John Hoang, Justin Leung, Thi Tuong Vi Nguyen

Spring 2022
Title: Grocery Brochure
People: Vishnu Adda, Alexis Chan, Matthew Le

Spring 2022
Title: IoT: Automated Irrigation System
People: Umang Dalsania, Christiana Huiskens, Kevin La, and Thanh Nguyen

Teaching

Instructor, *San José State University*

- CMPE 255: Data Mining
  Spring 2020, Fall 2020, Fall 2021, Spring 2022
- CMPE 257: Machine Learning
  Fall 2022
- CMPE 131: Software Engineering I
  Fall 2019, Spring 2020, Spring 2021, Fall 2021, Spring 2022, Fall 2022

Teaching Assistant, *UC Davis*

- ECS 162: Web Programming
  Spring 2017
- ECS 140A: Programming Languages
  Summer 2016
- ECS 50: Computer Organization and Machine-Dependent Programming
  Spring 2015, Summer 2016
- ECS 40: Software Development and Object-Oriented Programming
  Spring 2014, Fall 2015
- ECS 20: Discrete Mathematics for Computer Science
  Winter 2016
- ECS 30: Programming and Problem Solving
  Winter 2015