Carlos Rojas

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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

2023-	S-STEM: Empowering Low-Income Students to Succeed in Engineering and Computer Science ($2,499,411)
2022-2023	Research and Innovation Student RSCA Fellowship ($3,402)
2020-2022	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

2024	William Andreopoulos, Dominic Lopez, **Carlos Rojas**, Vedashree Bhandare. Finding BERT Errors Using Activation Vectors. 2024 Future Generation Computer Systems Journal, Paper (In-review). 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 (Accepted with Revisions), 2024.
2023	**Carlos Rojas**, Gina Quan. Mastery Grading in a Software Engineering Course. 2023 ASEE Annual Conference & Exposition, Paper (In-review). 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)
2020,2021	Department website committee
2020	College of engineering graduate curriculum committee
	Chair of Department graduate curriculum committee
2019,2020	Department undergraduate 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

2021	co-chair of SVCC '21 UNiSEC Datathon
	Bootcamp Code in 1 Day: Discover Hidden Patterns in Data
	Mentor for WiDS Datathon

Reviewer

2024	Computer Science Conference for CSU Undergraduates
2021	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