Eric Juarez

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I am a rising senior at Emory University that discovered my interest in data science during my most recent internship experience. I became fascinated by data science as I used neural networks to predict properties of thousands of chemical structures. I wish to enrich my knowledge in data science, and gain experience using diverse analytical and predictive tools in new domains.

Willing to relocate to: United States - -
Authorized to work in the US for any employer

Work Experience

Chemistry Research Intern

Oak Ridge National Laboratory - Oak Ridge, TN
May 2020 to Present

• Managed over 100K compute hour resources to create a dataset for high throughput screening of catalytic materials
• Contributed to a peer-reviewed publication that presented MatDeepLearn, a platform for testing state-of-the-art machine learning methods used in computational materials science
• Currently developing machine learning models with Graph Convolutional Networks to predict material properties

Chemistry Research Intern

Emory University - Atlanta, GA
August 2018 to May 2020

• Synthesized novel inorganic catalysts for oxidative reactions
• Chemical properties were analyzed using experimental and computational methods, such as chemistry modeling software, IR spectroscopy, NMR spectroscopy, X-ray crystallography, and thin-layer chromatography

Clinical Laboratory Intern

Nueva Clínica Internacional
June 2018 to July 2018

• Analyzed data from clinical spectroscopy and bacterial pathology tests that were used for real-time patient diagnoses in a hospital in Quito, Ecuador

Education

B.S. in Chemistry

Emory University - Atlanta, GA
August 2017 to Present

Skills

- Research & Development (4 years)
- Laboratory Experience (4 years)
- Technical writing (4 years)
- Data Science (2 years)
- Python (4 years)
- Machine Learning (2 years)

Languages

- English - Fluent
- Spanish - Intermediate

Publications

Benchmarking graph neural networks for materials chemistry
https://www.nature.com/articles/s41524-021-00554-0
June 2021

MatDeepLearn was developed as a platform for testing state-of-the-art machine learning methods used in computational materials science. To assess the limitations of each model, diverse types of materials were evaluated by the machine learning models.

Additional Information

PEER REVIEWED PUBLICATION

Fung, V.; Zhang, J.; Juarez, E.; Sumpter, B. G. Benchmarking graph neural networks for materials chemistry. npj Comput Mater 7, 84 (2021).

POSTER PRESENTATIONS

Juarez, E.; Fung, V. Metal Surface High-Throughput Screening for Nitrogen Fixation. Oak Ridge National Laboratory – Science Undergraduate Laboratory Internships Poster Session. August 5, 2020. Virtual presentation.

Juarez, E.; MacBeth, C. Development of Asymmetric Redox-Active Ligand-Scaffolds for C-H Bond Activation. Herty Medal Undergraduate Research Symposium. September 20, 2019. Lawrenceville, GA; and Emory University – Summer Undergraduate Research Experience Symposium. August 1, 2019. Atlanta, GA.

Juarez, E.; MacBeth, C. Synthesis and Characterization of a Ruthenium Catalyst Supported by a Redox - Active Ligand. Emory University – Chemistry Undergraduate Research Poster Session. April 23, 2019. Atlanta, GA.

HONORS AND AWARDS

IMSD Scholar 2019 - 2020
Emory University Atlanta, GA
National Institute of Health funded program that supports minority students interested in becoming part of the scientific workforce

Dean’s List 2018
Emory University Atlanta, GA
Recognizes top 20% of the class by GPA