

R. CHRIS EHEMANN

Ph.D., Data Scientist



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R.C. Ehemann



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Driven, creative, and charismatic
computational problem-solver

⚙️ TOOLS & TECHNIQUES

Jupyter Pandas Scikit-learn Keras
PyMC3 Statsmodels XGBoost ARIMA
GARCH Flask Dash Plotly
Seaborn MPL nonlinear programming
evolutionary programming

Python
bash
Julia
JS/HTML
SQL
Git
R

📁 EXPERIENCE

May 2019 –
Present

MANUFACTURING DATA SCIENTIST

Owens Corning

Primary data scientist in Owens Corning's Advanced Manufacturing organization. Supported organizational objectives of productivity and cost take-out by building predictive models of manufacturing processes, partnering with SMEs to test "tribal knowledge" with big data and visualization, performing numerous statistical analyses and mentoring other analytics practitioners. As a corporate resource, also provided analytics support to product development and marketing teams throughout OC.

Python Julia SQL

Jan 2018 –
May 2019

DATA SCIENTIST

Owens Corning

Formative member of a data science team in Owens Corning Science & Technology. Focused on accelerating product development by building predictive and prescriptive applications for product performance/optimization and leveraging large historical datasets for statistical analyses published and/or presented internally. Led three interns while managing multiple projects with competing priorities.

Python JavaScript

2010 & 2011
June – August

INTERN, ATOMIC & MOLECULAR PHYSICS

Oak Ridge National Laboratory

Leveraged world-class supercomputing resources to model the interaction of hydrogen atoms with carbon nano-structures using classical and semi-classical simulation techniques.

HPC bash Fortran

🎓 EDUCATION

December 2018

PH.D.

The Ohio State University

Physics, 4.0, *Specialization: Computational materials physics*

Utilized high-performance computing to optimize physical models of atomic-level interactions in metals using evolutionary algorithms.

Python bash C++ HPC

May 2015

MASTER OF SCIENCE

The Ohio State University

Physics, 4.0

May 2012

BACHELOR OF SCIENCE

Middle Tennessee State University

Physics and Mathematics, 3.9

PUBLICATIONS

- Two Trade Secrets, 2019.
- Using Analytics to Stay Ahead of the Curve in B2B Markets. C. Skinner and R. C. Ehemann, *2018 BGSU Business Analytics Symposium* (2018).
- Force-matched interatomic potentials for tungsten and titanium-niobium. The Ohio State University, December 2017.
- Force-matched empirical potential for martensitic transitions and plastic deformation in Ti-Nb alloys. R. C. Ehemann and J. W. Wilkins. *Physical Review B* **96**, 184105 (2017)
- *Ab initio* based empirical potential applied to tungsten at high pressure. R. C. Ehemann, J. W. Nicklas, H. Park and J. W. Wilkins. *Physical Review B* **95**, 184101 (2017)
- Detection of hydrogen using graphene. R. C. Ehemann, P. S. Krstic, J. Dadras, P. R. Kent and J. Jakowski. *Nanoscale Research Letters* **7**, 198 (2012)

PRESENTATIONS

- *Artificial Intelligence and Machine Learning: Theory and Application in Owens Corning S&T*, Owens Corning S&T Tech Talk, April and May 2019.
- *It's a Bird, It's a Blade, it's Super-HI*, Poster (co-author), Owens Corning Science & Technology Poster Session, 2018. Awarded best poster.
- *Innovating Innovation*, Poster, Owens Corning Science & Technology Poster Session, 2018.
- *A Novel Empirical Potential for Modeling Martensitic Transformations in Ti-Nb Alloys*, Poster, OSU Materials Week 2016. Awarded best poster.
- *Atomistic Modeling of Ti-Nb Alloys*, Poster, Ohio Supercomputing Center Statewide Users Group Meeting 2015. Awarded best poster.
- *Toward a Versatile Molecular Dynamics Potential for the Ti-Nb Alloy System*, Poster, OSU Materials Week 2015.

★ AWARDS & HONORS

- Slater Innovation Award, Owens Corning Science & Technology, 2018. Awarded for the development of a high-impact predictive model
- Trumbull Asphalt Breakthrough Award, Owens Corning, 2018.
- Winner, Owens Corning Science & Technology Poster Session, 2018
- University Fellowship, The Ohio State University Graduate School, 2012–2016
- Fowler Fellowship, The Ohio State University Department of Physics, 2012–2014
- Barry M. Goldwater Scholarship, Barry Goldwater Scholarship & Excellence in Education Foundation, 2011–2012