R. CHRIS EHEMANN

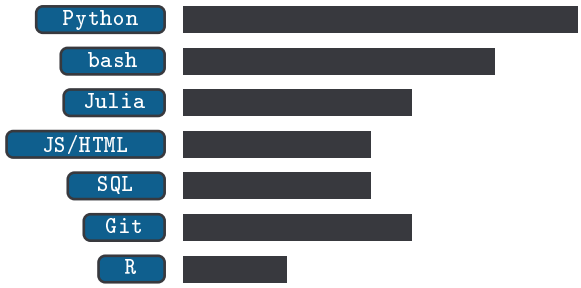
Ph.D., Data Scientist

New Albany, OH 43054
+1 931 588 1446
rcehemann@gmail.com
ehemannrc.info
R.C. Ehemann
github.com/rcehemann

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



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

- Using Analytics to Stay Ahead of the Curve in B2B Markets. C. Skinner and R. C. Ehemann, *2018 BGSU Business Anallytics 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-H!*, 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