

KEN NEWCOMB, PH.D.

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SUMMARY

Experienced computational scientist seeking a full-time position in data science.

Expertise in machine learning techniques, data analysis, and computational chemistry.

Passionate and independent problem solver, able to translate complex ideas into simple terms.

SKILLS/SOFTWARE

Highly Experienced:

- Python (NumPy, SciPy, spaCy, pandas, matplotlib)
- Machine learning techniques
- MATLAB
- Data analysis
- Linux
- Scientific writing and communication
- Creative problem solving

Experienced:

- TensorFlow
- Scikit-Learn
- MongoDB
- SQL
- Web Development

EXPERIENCE

DATA SCIENTIST • UNIVERSITY OF NOTRE DAME • APRIL 2020 (CONTRACT, REMOTE)

Built mathematical models of disease transmission coupled with population health data, including applications for the ongoing COVID-19 pandemic • Implemented Bayesian mathematical modeling and statistical analysis in MATLAB

DATA SCIENTIST • AMAFORGE • MAY 2019 – NOVEMBER 2019 (CONTRACT)

Designed and implemented a machine learning model to efficiently extract information from academic faculty resumes • Utilized modern NLP techniques including word embeddings and POS tagging • Optimized Python APIs for scraping faculty data

GRADUATE RESEARCHER • UNIVERSITY OF NOTRE DAME • AUGUST 2014 – MAY 2019

Ph.D. dissertation focused on molecular simulation • Performed extensive post-simulation data analysis in Python and MATLAB • Published research findings as three peer-reviewed articles, and frequently presented work in oral and poster formats • Independently taught weekly recitation sessions (20-30 students), held office hours, and assigned grades • Taught linear algebra/statistics and assisted with weekly MATLAB projects

EDUCATION

PH.D, COMPUTATIONAL CHEMISTRY • MAY 2019 • UNIVERSITY OF NOTRE DAME

Arthur J. Schmitt Leadership Fellow

B.S., CHEMICAL ENGINEERING • MAY 2014 • VILLANOVA UNIVERSITY

Cum Laude, Minors in Computer Science and Chemistry

SELECTED PUBLICATIONS

K. Newcomb, V. Bernales, S. P. Tiwari, L. Gagliardi, E. J. Maginn, The role of cations in uranyl nanocluster association: A molecular dynamics study, PCCP, 2019

K. Newcomb, S. P. Tiwari, N. Raj, E. J. Maginn, A molecular dynamics investigation of actinyl-ligand speciation in aqueous solution, PCCP, 2018