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Connor Briggs

Research Interests

Applications of machine learning to quantum chemistry.

Education

2017–2022 **B.S. in Chemistry with Mathematics Minor**, *Virginia Tech*, Blacksburg, VA, *2.75 GPA*.

My first year at VT I struggled to adjust, and I ended my first semester with a 1.96. In my second and third years, I worked hard and my GPA shot up to a 2.67. When lockdowns started, I struggled to adjust to online learning, and my GPA stagnated, ending my fourth year with a 2.66. With the return to in-person instruction, I finished out my time here with a 2.75, significantly higher than what I started with.

2012–2017 **High School Diploma**, *Shippensburg Area Senior High School*, Shippensburg, PA.

During high school, I enrolled in several college courses in computer science, chemistry, physics, math, and electrical engineering.

Employment History

2018–2021 **Salesperson**, *Sheetz*, Shippensburg, PA.

Prepared food, handled transactions, and handled maintenance jobs around the store.

Languages

English	Native speaker
French	Conversational proficiency
German	Conversational proficiency
Esperanto	Conversational proficiency

Skills

Coding Lanugages	C/C++, Python, CUDA C/C++, GNU Make, Bash, Java, LaTeX, TeX, FORTRAN, x86 Assembler, Common Lisp
Operating Systems	GNU/Linux (Debian, Ubuntu, Linux Mint, CentOS), Windows
Technical Skills	Psi4, Gaussian, QCFractal, Git, Microsoft Office Suite, Google Office Suite, LibreOffice Suite, OpenMP, Super Computing, Quantum Computing
Chemistry	Quantum chemistry, Organic synthetic techniques, Inorganic Synthetic Techniques, Glovebox use, Schlenk line manipulations, NMR, IR, UV/Vis, Gas Chromatography, GC/MS, X-Ray Diffraction

Awards

2022 **ACS Undergraduate Award in Inorganic Chemistry**, *ACS Division of Inorganic Chemistry*.
This award was given for my research on thiophene ring-opening reactions.

Research Experience

2017–2022 **Undergraduate Research**, *Virginia Tech*, Blacksburg, VA.
Worked under Dr. T. Daniel Crawford in his theory lab at Virginia Tech.

Teaching Experience

2015–2020 **Tutoring**.
Tutored several students in chemistry and mathematics.

Current Projects

2022 **Ring insertions of iridium(I) complexes into substituted thiophene rings**.
For my capstone project, I performed several ring insertion reactions of tris(trimethylphosphine)(1,5-cyclooctadiene)iridium(I) chloride into several substituted thiophenes to investigate how different substituents would affect the insertion. I then worked with Dr. Joseph Merola of the Virginia Tech Department of Chemistry to finish the project, and I hope to have the results published by the end of Summer 2022.

Publications

Benjamin G. Peyton, Connor Briggs, Ruhee D'Cunha, Johannes T. Margraf, and T. Daniel Crawford. Machine-learning coupled cluster properties through a density tensor representation. *The Journal of Physical Chemistry A*, 124(23):4861–4871, 2020. PMID: 32412756.