# Connor Briggs

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## 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

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

## Skills

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|---|---|
| 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 |

## 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.