Anthony Pyka, Ph.D, E.I.T.

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EDUCATION

Ph.D. Chemical Engineering: Data Science - University of Washington **11/16/2023**
M.S. Chemical Engineering - University of Washington **9/10/2022**
B.S. Chemical Engineering - Oregon State University **6/14/2019**

WORK EXPERIENCE

Graduate Researcher - University of Washington, Seattle WA **9/2019 – 12/2023**

- Designed and constructed a high-vacuum system to synthesize and test nickel single crystals for charge transport, electrochemical urea oxidation, and water electrolysis kinetics in alkaline mediums
- Synthesized nickel iron, nickel chromium, nickel silicon, and nickel manganese electrocatalysts within membrane-electrode assemblies (MEA) for integration into fuel cell stacks
- Conducted modeling and finite element analysis using COMSOL to establish design parameters, such as flowrates, partial pressures, and pH, for a direct urea fuel cell for water remediation
- Developed experience with mills, lathes, and other machining tools as well as software such as SolidWorks, Python, and SQL to build and integrate control system for direct urea fuel cell

Intern - Fraunhofer UMSICHT, Sulzbach-Rosenberg Germany **6/2018 – 9/2018**

- Performed hydrotreating experiments for upgrading crude bio-oil to gasoline, kerosene, and diesel
- Designed and conducted inductive hydrotreating experiments to determine effects of magnetic fields on crude bio-oil samples from a thermo-catalytic reactor

Undergraduate Researcher - Oregon State University, Corvallis Oregon **6/2017 – 6/2018**

- Designed and implemented electrical circuits to simulate a corona discharge for the conversion of methane to ethane through free radicalization
- Coordinated with graduate students to create a Design of Experiments (DOE) to find relationships between voltage, current, concentration, and single-pass conversion

Intern - Funai Corporation, Corvallis Oregon **6/2017 – 9/2017**

- Integrated a real-time imaging system within a microfluidic dispensing device for life science applications
- Utilized MATLAB/Simulink for precise image acquisition analysis and for a graphical user interface.

ACTIVITES, AWARDS, AND CREDENTIALS

- Washington State Engineer-In-Training (E.I.T.) certification **11/2023**
- University of Washington Rugby Club **6/2021 – 9/2022**
- McCarthy Award for Excellence in Graduate Student Teaching **11/2023**
- Eagle Scout - Boy Scouts of America **12/2011**

SKILLS

- Proficient in Microsoft Office, R, C, C++, SQL, SQL++, Python, and Git
- Experience building complex data sets from multiple data sources, both internally and externally
- Strong communication skills with the ability to convey technical concepts effectively to diverse audiences
- Experienced in evaluating emerging technologies for potential application to address business needs and staying up-to-date with industry trends
- Strong background working with predictive and statistical modeling, machine learning and strong expertise in all phases of the modeling pipeline

REFERENCES

Philip Harding, Ph.D, P.E. - Amazon
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David Bergsman, Ph.D. - University of Washington
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