

# Ethan W. Rietz

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## Education

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### Oregon State University

*Jan 2021 - Aug 2022*

*Bachelor of Science: Computer Science (GPA: 4.0)*

### Indiana University Bloomington

*2019 - 2021*

*Ph.D. Student: Physical Chemistry and Scientific Computing (GPA: 3.76)*

### Iowa State University

*2013 - 2017*

*Bachelor of Science: Biochemistry (GPA: 3.51)*

## Professional

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## Rush ReCommerce

Jan 2023 - Now

Software Engineer

- Joined a lean engineering team at a startup; became the **sole backend engineer** after ~20 months, taking ownership of backend systems, infrastructure, and data.
- Built a **real-time auction system** using WebSockets that powers a unique **customer-to-customer resale experience**: customers return items via the Peg mobile app (connected through our Shopify app), triggering live auctions on [peg.com](https://peg.com). Winning bidders receive direct shipment from the original purchaser.
- Designed and launched a **public Shopify app** from scratch, enabling retailers to offer integrated self-service return flows directly through peg and Shopify.
- Integrated **Logicbroker** to automate product syncing, order flow, shipment tracking, and invoicing for 100+ vendors with zero manual steps.
- Maintained and expanded the **RushMarket API**, powering:
  - [rushmarket.com](https://rushmarket.com) — customer-facing eCommerce storefront
  - [corelink.rushmarket.com](https://corelink.rushmarket.com) — internal return-processing admin tool
  - [central.rushrecommerce.com](https://central.rushrecommerce.com) — vendor-facing returns portal
- Acted as **Database Administrator**, managing MySQL schema changes, query performance, and backups.
- Managed **Azure infrastructure** for backend services: provisioned App Services, configured deployment pipelines, and maintained MySQL instances.
- Took over and enhanced a **geographic display engine** used to assess profitability across metro shipping zones.
- Delivered production-ready systems quickly with minimal supervision in a high-autonomy, fast-moving environment.

Tech Stack: Node.js, MySQL, RabbitMQ, WebSockets, Azure (App Services, MySQL), Shopify, REST APIs

## Werner Enterprises

Apr 2021 - Nov 2022

Software Intern (Oct 2021 - Nov 2022)

- Worked on a real-time data sync application between legacy Werner applications and the Mastery Logistics Systems Mastermind TMS. Worked quite extensively with Azure Service Buses.
- Developed mobile applications using the Ionic framework and C#/.NET on the back end.
- Wrote extensive unit and integration test suites using MSTest.

Tech Stack: C#, TypeScript/Angular, Azure, SQL Server, Entity Framework

Software QA Intern (Apr 2021 - Oct 2021)

- Tested APIs, UIs, and mobile devices using a variety of testing methods.

Tech Stack: Postman, Perfecto, AS400, Db2, Azure Cosmos DB, Python, JavaScript

## Agilent Technologies

2017 - 2019

Manufacturing Associate

Manufactured liquid consumable products (gels, buffers, DNA/RNA ladders and markers) for Agilent's capillary electrophoresis instruments in an aseptic environment.

## **Limnology Laboratory**

2014 - 2015

*Chemistry Technician*

Worked in a laboratory certified by the Iowa Department of Natural Resources to analyze water nutrients for the Iowa Lakes Survey Monitoring Program.

## **Research**

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### **Indiana University**

2019 - 2020

*Research with Professor Srinivasan Iyengar*

- Worked on high performance Linux computing clusters to study non-classical carbocation systems computationally.
- Used Ab initio molecular dynamics, density functional theory, and vibrational spectroscopy methods to understand energy redistribution in anomalous carbocations and hydrogen bonded systems.

### **Iowa State University**

2016

*Research with Professor Levi Stanley*

- Studied the catalytic activity of metal-organic framework compounds and asked if the steric and electronic properties of MOFs are tunable upon functionalization of the linker units

## **Teaching**

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### **Indiana University - Associate Instructor**

#### **C117: Principals of Chemistry and Biochemistry - Head AI (Fall 2020)**

Oversaw four Associate Instructors, two undergraduate teaching assistants, and led weekly meetings

Organized over 25 instructors to proctor examinations

Made all exams, worksheets, and Canvas material for the course for over 600 students

#### **C117: Principals of Chemistry and Biochemistry (Spring 2020)**

#### **C103: Introduction to Chemical Principals (Fall 2019)**