# Ethan W. Rietz

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## Education

**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

**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`. 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 — customer-facing eCommerce storefront
  - corelink.rushmarket.com — internal return-processing admin tool
  - 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, Azure, Shopify, REST APIs, WebSockets, GraphQL

**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, utilizing Azure Service Buses to ensure reliable message delivery.
- 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

**Indiana University** *2019 - 2020*

*Research with Professor Srinivasan Iyengar*

- Worked on high performance Linux computing clusters to study non-classical carbocation systems using computational methods.
- 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

### Indiana University - Associate Instructor

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

Led a team of four Associate Instructors and two undergraduate teaching assistants, coordinated weekly meetings, organized examination proctoring for over 600 students, and developed all course materials including exams and worksheets.

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

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