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 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)