

Toby Baratta

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Education

University of California, Irvine

Ph.D. in Informatics

Irvine, California

Sep 2024 – present

Grinnell College

B.A. in Computer Science + Political Science, Concentration in Statistics

Aug 2013 – May 2017

Graduate Fellowships and Awards

NSF CISE Graduate Fellowship (CSGrad4US)

Awarded August 2023

- Awarded to persons in industry with demonstrated potential and desire for doctoral research.
- \$37,000 stipend & \$16,000 cost-of-education allowance for 3 years, starting in August 2024.

Research Experiences

Examining Motivation of Gaming Tournament Volunteers

Winter 2025 - Present

- Modifying a research protocol for volunteers at gaming events and within gaming communities

Grinnell College Mental Health on College Campuses Qualitative Study

2016-2017

- Partnered with the Office of Analytic Support and Institutional Research (OASIR) and RAND Corporation to create a quantitative study analyzing mental health at Grinnell College. Provided key analysis included within in the final [Task Force Report](#).
- Served as a member of the Mental Health Task Force reviewing confidential survey results and determining positive interventions with Grinnell College faculty, staff, and local Grinnell mental health providers.

Statistical Modelling for Student Success

Fall 2015/Spring 2015

- Anonymized dataset of student demographics and academic records dating from 1980 - 2013.
- Analyzed dataset to predict student retention and graduation rates over 4 and 6-year periods; presented this data with derived timelines of successful interventions to improve student success to the Office of Academic Affairs.
- Overseen by Professor Shonda Kuiper, Department of Mathematics & Computer Science

Data Visualizations for Social Good

Fall 2016

- Analyzed live-time Twitter data to validate hypotheses regarding potential trends of cluster suicides within online communities, akin to those seen with cluster suicides within "real life" communities.
- Overseen by Professor Charlie Curtsinger, Department of Computer Science

Historical Map Processing, Independent Research

2014-2015

- Tracked the geographical movement of lakes and rivers in the United States with computer vision
- Presented poster on Historical Map Processing & the Mid-States Consortium for Math & Science
- Pilot explorations formally acknowledged in published paper: Weinman, Jerod. "Geographic and style models for historical map alignment and toponym recognition." 2017 14th IAPR international conference on document analysis and recognition (ICDAR). Vol. 1. IEEE, 2017.
- Overseen by Professor Jerod Weinman, Department of Computer Science

Teaching and Leadership Experience

Teaching Assistant

Irvine, California

Donald Bren School of Informatics & Computer Science

Aug 2024 – present

- Teaching Assistant for Human-Computer Interaction, an introduction course of 300 students in learning HCI fundamentals, UI/UX tools and design. Lead two discussion sessions of 50 students each.

- Teaching Assistant for Introduction to Game Development, a lower-level course with 100 students with varying experience in programming and coding.
- Ensured Unity was installed on all library and Informatics computers, as well as loanable resources for students without access to laptops
- Created custom scripts and Google Sheets integration to connect GitHub, Canvas, PollEverywhere, and itch.io together to allow for smooth & pseudo-anonymous grading

Software Engineering Intern Manager; Computer Science High School Mentor

Microsoft

Redmond, Washington

May 2019 - August 2022

- Mentored interns across Microsoft with navigating relationships with their teams and managers, as well as advice for future career development
- Managed Software Engineering and Explorer Interns in 2021 and 2022, with all interns getting return offers for internships or full-time jobs
- Designed Intern projects and oversaw summer schedules for project completion, including deployment to end-users, receiving immediate feedback from users
- Mentored high school students in career choices and future opportunities

Alumni Mentor

June 2017 - Present

Departments of Computer Science, Mathematics, and Statistics

- Organized mock interviews for current students for internship and job opportunities
- Talked and mentored about my own background and work in industry

Teaching Assistant Equivalent

August 2013 - May 2017

Department of Computer Science, Grinnell College

- Mentored & Graded "Imperative Problem Solving with Robots" for three semesters, using C. Class size usually of 20-30.
- Mentored & Graded "Functional Problem Solving with GIMP (GNU Image Manipulation Program)", teaching Scheme. Class size usually of 20-30.
- Held night discussion sessions going in-depth into weekly problems
- Oversaw computer labs at night, helping students within any of the introduction courses (in Scheme, C, Java, and some JavaScript)
- Designed and led courses for elementary and middle school students on coding and robotics

Teaching Assistant Equivalent

Spring 2015

Department of Mathematics & Statistics, Grinnell College

- Mentored Statistical Modeling, an upper level project-based class using R in Statistics. Class size of 20.

Leader and Organizer of Diversity & Inclusion Initiatives

August 2014 - May 2017

Grinnell college

- Served as Student Government Association Diversity & Outreach Coordinator (2016-2017), focusing on supporting first-year students to the college transition and spearheading initiatives to add Students with Disability as a group under the Multicultural Services Department, as well as pushing forward the Student Mental Health Survey.
- Led the Stonewall Resource Center, the LGBTQAI+ Community Space on campus, overseeing 10+ different student-run clubs and securing grant funding for conference travel.

Technology Consultant Coordinator

August 2013 - May 2016

Information Technology Services, Grinnell College

- Managed & Taught ITS Technology Consultants, a paid role on campus for students working with technical support for both computers and audio-visual equipment across campus.

Leader and Researcher for Teaching Computer Science

August 2013 - May 2017

Various Research Projects, Grinnell College

- Managed the Data Analysis and Social Inquiry Lab (DASIL), leading and teaching five other programmers to create visually appealing and interactive data visualizations for professors & students in interdisciplinary fields.

- Collaborated with Professor Ursula Wolz to create a proof-of-concept autonomous tutor to teach basic computer science concepts, concluding in teaching three courses to elementary and middle school students in Scratch, Python, and Snap! with robots.

Presentations, Writings, and Talks

Grinnell Says ‘Thrive, not Survive’: Our History says we should simply be happy to be alive (2016): Researched history of suicide at Grinnell (college and community) in over one hundred years of college newspaper records and interviewing students and alumni, discovering a pattern of student suicides every 4-5 years dating back to 1994. Published article in [Grinnell College Vantage Point vol. 2, June 2016](#) [🔗](#)

Drink Espresso; Don’t Be Depresso: Coming Up For Air When Deep In a Problem (2020): React Podcast - Lightning Talk Series

Queer Womyn in Technology: Creating Inclusive Spaces within Academia and Industry: Workshop at the Midwest Bisexual Lesbian Gay Transgender Asexual College Conference

Analyzing Data for Humanistic and Social Inquiry.: Poster Presentation at the Grace Hopper Celebration 2014

Historical Map Processing - Toby Baratta & Bo Wang, Spring 2015: Poster Presentation at the Midwest Consortium for Math & Science

Volunteering and Service

NodeCG Project, Open-Source Maintainer

Nov 2023 – present

- Responsible for maintaining the [NodeCG Open-Source Project](#) [🔗](#), a tool for creating broadcast graphics. Used by many large broadcasts, including Games Done Quick (GDQ).

Microsoft Neurodiversity / Autism Hiring Program

Apr 2018 – Nov 2022

- Spent on average one hour a week or month depending on need with new hires and interns who identified as neurodiverse.
- Helped navigate complex work environment relationships and career goals.

Washington State Opportunity Scholarship Program

Feb 2022 – Apr 2023

- Mentored underprivileged students in STEM-adjacent careers, including students in trade-based jobs (Electrician, etc).
- Worked with students to balance work, life, and school priorities.

Out in Technology Conference Series

Aug 2019 – Aug 2021

- Panel Speaker on the Bi/Pan Women in Tech Panel (2020).
- Career mentor for 6-8 students a year, providing guidance, resume review, networking contacts, and community throughout the program.

Work Experience

Broadcast & Technical Director

Jun 2018 – present

Level1 TV & EndGameTV

- Lead a team of four engineers in creating highly integrated broadcast production software, including management of product design, GitHub maintenance, feature prioritization, user-story delegation, and real-time issue mitigation.
- Developed and designed attention-grabbing interactive and informative overlays for broadcasts with over 100,000 concurrent viewers.
- Created online and in-person Esports tournaments each ranging from 100-5000 attendees. Coordinated staff, targeted marketing campaigns, and worked within a limited budget to deliver exceptional event experiences.
- Authored a community-wide Code of Conduct; created and led a Safety Council charged with accepting reports of improper behavior and determining appropriate sanctions through an impartial process which increased protections for event participants, particularly underage players.
- Partner with large companies for their broadcasts and games, including Nintendo, the Esports Special Olympics, Intel, Microsoft, Mogul Moves, offbrand games, Jacklinks Beef Jerky, and more

Senior Software Engineer, Frontend Lead

Bothell, WA

Stanza Systems

Nov 2022 – Dec 2023

- Eighth employee at small startup working on building user experience aware reliability tools- Wrote API contracts and documentation for internal and external-facing tools, using Stoplight for mockups and driving internal consensus.
- Partook in potential customer interviews and feedback to determine product market fit.
- Wrote code using Next.js to allow users to control and operate Stanza tooling.
- Set standards regarding code quality and structure across frontend and backend JavaScript & TypeScript code.
- Added middleware for performance optimizations and kept up to date with the constant ongoing changes across the React & web rendering environment

Senior Software Engineer, Content Gaming & Esports

Redmond, WA

Microsoft

Apr 2022 – Nov 2022

- Restructured 3rd party developer feedback loop by redirecting conversations from Discord to GitHub for ongoing issues & worked to ensure that developer feedback and user feedback was properly triaged and addressed, quantifying the impact of GraphQL API improvements for product direction.
- Led documentation initiative across Content Services Gaming organization to conglomerate docs from across pre- and post-acquisition sources to ensure that the team was informed, and resources were shared.
- Worked with other team leads on planning & executing new features and flights to increase daily active users.
- Implemented changes in process and policies regarding incident-responses with emphasis on ongoing learning and team growth.
- Worked overall in React, TypeScript, PHP, and JavaScript for maintaining and improving tournament organizing platforms and integration of other Microsoft ventures.
- Supported team management of infrastructure across Azure & Google Cloud Platform systems.
- **Engineering Skills:** React, TypeScript, GraphQL, API Design, Web Development, Web Performance, Accessibility, PHP, and Developer Relations

Senior Software Engineer, Microsoft Education

Redmond, WA

Microsoft

Jan 2018 – Apr 2022

- Led the User Interface team for School Data Sync (SDS), a platform for IT Administrators to manage data and provisioning pipelines for K-12 and Higher Education Schools worldwide. This service supports IT Administrators with no to minimal experience with IT administration to expert-level administrative organizations, requiring complex license structure across entire countries.
- Created and managed a small, international team through new feature development, live-site maintenance of legacy and new product flows. This includes protecting & balancing the workloads of other UI engineers, creating cohesion across different product areas and product management, and ensuring a delightful and reliable end-to-end experience for users.
- Guaranteed accessibility compliance across both new and legacy codebases, leading communication, triage, and engineering response – including working with other partner teams to improve user experience, resulting in 100% ongoing compliance.
- Supported a live service through a period of **600% growth**, including supporting customers' needs directly while on-call and implementing solutions to increase performance as well as improving the stability of the service through COVID-19.
- Led the *Modern Life & Learning 2020 Give Campaign* efforts to support charities & nonprofits through events accessible to over 380 employees throughout October 2020. Organized a team of volunteers to run multiple volunteering and fundraising events, including an auction that alone raised over \$65,000. This campaign, despite being entirely virtual and planned in less than a week, **increased individual participation by 60% and volunteering participation by 123%**, raising over **\$350,000** for charities and nonprofits in one month.
- **Engineering Expertise:** C#, TypeScript, React, Redux, Design Systems, Accessibility, REST API Design, Remote Databases, Data Processing

Program Manager, Office Extensibility

Redmond, WA

Microsoft

Jul 2017 – Jan 2018

- Drove Office Extensibility team's Accessibility to ensure that our products are not only compliant but delightful for people with disabilities to use. Included all of programmatic Office, including Access and VBA.

- Designed *Office Makers*, a prototype product to lower the bar of entry into Office Engineering Add-On developments in JavaScript and TypeScript.
- Maintained documentation and developer relationships with my previous internship project, designing the Conditional Formatting Excel API

Certifications and Special Trainings

Mentoring Excellence Program Certificate of Completion (*University of California, Irvine*): A 5-week certificate program for enhancing mentoring skills

QPR (Question, Persuade, Refer) Gatekeeper Certification: QPR is a training to learn basic skills to help prevent suicide

Accessibility in Action, Microsoft Certificate: Microsoft Certificate for completing accessibility coursework, reviewing accessibility event guidelines, and training on WCAG and other best practices in software engineering

Certified Sexual Abuse and Victim Advocate, Crisis Intervention Services (Iowa): Managed the on-campus and county-wide 24/7 emergency hotline for victim-survivors of Intimate Partner Violence (IPV) and Sexual Assault, as well as working at the IPV Shelter serving 9 counties within Iowa, and improving educational material to be LGBTQAI+ inclusive for Iowa Crisis Intervention Services. (2013-2016)

Undergraduate Fellowships and Awards

National Merit Scholarship Recipient	<i>2023-2017</i>
Grinnell College Trustee Honors Scholar	<i>2013-2017</i>
Principal Financial Group Technology Scholar	<i>2015-2016</i>
Out in Technology Conference Scholar	<i>September 2015</i>
Google Grace Hopper Celebration Scholarship	<i>October 2015</i>
Kent Fuka Natural Language Processing Querium Contest Winner	<i>May 2016</i>

Internships

Program Manager Intern *Redmond, WA*
Microsoft *May 2016 – Aug 2016*

- Designed a new JavaScript and REST API for Microsoft Excel to allow for developers to use Conditional Formatting in their add-ins and scripts.
- Created a new design for Graph Explorer allowing for anonymous usage, implementing accessibility changes, and increasing overall usability to all potential Microsoft Graph users.

Software Engineering Intern *Venice Beach, California*
Google *May 2015 – Aug 2015*

- Wrote design document, documenting goals, outcomes, and compliance requirements for project.
- Applied machine learning algorithms in Java to categorize Google Drive files within a highly scalable system over the entire Drive corpus.
- Collaborated with Apps Search Quality team to use categorization to improve search results.

Summer Intern *Miami, Florida*
Yip Associates *May 2013 – Aug 2013*

- Assisted Maria Yip, CPA United States Bankruptcy Trustee in the Southern District of Florida with tasks required in the Trustee Practice and the Forensic Accounting Practice.
- Prepared databases, presentations, and assisted in support work related to the preparation of expert reports in the litigation consulting and forensic accounting practice.
- Updated files and databases to current technologies and incorporated previous database experience.