# Parker Ziegler

Electrical Engineering and Computer Sciences
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## Research Vision

To design and build the next generation of programming languages and interfaces for analyzing and visualizing geospatial data.

**Areas of Focus** *Programming Languages • Human-Computer Interaction • Visualization • Geospatial Data Science and Cartography • Web Technologies*

## Education

**Aug 2021 – Present**    **University of California, Berkeley, Ph.D. Computer Science**

**Advisor** Sarah E. Chasins

**Sep 2012 – May 2016**    **Middlebury College, B.A. Geography and Arabic**    *3.96/4.00*

**Advisors** Kacy McKinney, Joseph Holler
**Senior Research** Learning GIS and Cartography in the Programming Age: A Framework for a Critical, Code-Based Geospatial Education
*Phi Beta Kappa, Summa Cum Laude, College Scholar (7 Semesters)*

## Industry Experience

**Jan 2018 – Jun 2021**    **Formidable,** Software Engineer IV    Seattle, WA

Core team member, Formidable Open Source. Author of multiple open source libraries, including `renature`, `reason-urql`, and `next-urql`, and maintainer for `urql` and `webpack-dashboard`. Mentor to colleagues in junior and mid-level software engineering roles.

Leading frontend development for teams of 3-6 software engineers. Architecting large-scale, production-facing web applications using JavaScript, TypeScript, React, Node.js, GraphQL, and Terraform.

**Nov 2016 – Dec 2017**    **Integral GIS,** Geospatial Developer    Seattle, WA

Software engineer building interactive, map-centered web applications for spatial data collection, analysis, and visualization. Led frontend (TypeScript, React) and server-side (Node.js) development of `FrameWork`, a web application for tracking working conditions across five states for the Pacific Northwest Regional Council of Carpenters.

**May – Sep 2016**    **Azavea,** Summer of Maps Fellow    Philadelphia, PA

Software engineer and UX designer on geospatial data visualization projects for partner non-profits Transportation Alternatives and Ecotrust. Developed web-based spatial data visualization applications using JavaScript, D3, and CARTO. Wrote automated scripts in R for performing generalized linear and geographically weighted regression analysis.

## Research Positions

Dec 2019 – Jan 2020     **Formidable Open Source**, Seattle, WA     **Advisor** Lauren Eastridge
Open Source Fellowship

*Renature*

Authored `renature`, a novel physics-based UI animation library for the web focused on using the physics of gravity, friction, and fluid resistance to animate HTML and SVG elements.

May 2016 – Aug 2016     **Azavea**, Philadelphia, PA     **Advisor** Daniel McGlone
**Transportation Alternatives**, New York, NY
Summer of Maps Fellowship

*The Road to Vision Zero: Traffic Crashes and Poverty in New York City*

Investigated the spatial relationships between traffic crashes and key indicators of poverty in New York City. Developed R scripts for generating correlation statistics and performing generalized linear regression on crash data. Created an interactive web application for visualizing the analysis.

May 2016 – Aug 2016     **Azavea**, Philadelphia, PA     **Advisor** Esther Needham
**Ecotrust**, Portland, OR
Summer of Maps Fellowship

*Detecting Change in Portland's Urban Canopy*

Explored the change in Portland's urban canopy from 2007-2014 and examined how that change related to shifts in demographics like race, education, population density, and home ownership. Developed geographically weighted regression models in R and ArcGIS to pinpoint the most significant correlates and causal factors.

May – Aug 2013     **Amherst College**, Amherst, MA     **Advisor** Nusrat S. Chowdhury
Summer Undergraduate Research

*Placing the Voices of Shahbag in Modern Narratives of Transnational Youth Protest*

Conducted qualitative research on the transnational connections between the Shahbag Riots of 2013 and youth protests of the Arab Spring. Published research findings in a two-part series in Bangladeshi blog *Alal o Dulal* and presented at the 2014 Middlebury College Student Research Symposium.

## Posters

March 2016     *Learning GIS and Cartography in the Programming Age: A Framework for a Critical, Code-Based Geospatial Education.* American Association of Geographers (AAG) Annual Conference, GIS & Technology Poster Session. San Francisco, CA.

# Talks

| April 2022 | *A Cross-Domain Need-Finding Study with Users of Geospatial Data.* Programming Systems Seminar, UC Berkeley, Berkeley, CA. |
| March 2022 | *reviz: A Lightweight Engine For Reverse Engineering Data Visualizations From the DOM.* EPIC Data Lab Seminar, UC Berkeley, Berkeley, CA. |
| September 2019 | *Towards an Open, Reason(ML)able Web.* Strange Loop, St. Louis, MO. |
| August 2019 | *Reason(ML)able React.* Seattle React.js, Seattle, WA. |

# Awards and Honors

| December 2019 | Formidable Open Source Fellow |
| May 2016 | Azavea Summer of Maps Fellow |
| May 2016 | Phi Beta Kappa, Middlebury College |
| May 2016 | Summa Cum Laude, Middlebury College |
| September 2015 | Old Stone Mill Projects for Creativity Grant, Middlebury College |
| September 2014 | Narrative Journalism Abroad Fellow (Arabic), Middlebury C.V. Starr School in the Middle East – University of Jordan |

# Teaching

**University of California, Berkeley**

| Fall 2022 | CS 164: Programming Languages and Compilers |

**Middlebury College**

| Spring 2016 | GEOG 120: Introduction to GIS |
| Fall 2015 | GEOG 120: Introduction to GIS |

# Service

| May 2022 – Present | *Website Developer and Maintainer.* EPIC Data Lab, UC Berkeley, Berkeley, CA |
| May 2018 – Dec 2018 | *Meetup Co-organizer and Emcee.* SeattleJS, Seattle, WA |

# Conference Travel Grants

| Oct 2021 | OOPSLA Programming Languages Mentoring Workshop (PLMW) |
| May 2016 | Middlebury College Undergraduate Research Travel Fund |