

# Amber Thrall

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## COMPUTER LANGUAGES

- Preferred: Rust, C++
- Comfortable: C, Ruby
- Familiar: Python, Javascript, SQL

## SELECT PROJECTS

- **amber.thrall.me**, personal blog and portfolio powered by React  
<https://github.com/AmberThrall/amberthrall.github.io>
  - Custom filterable blog using remarkable to render markdown content
  - Single page website using React's *BrowserRouter* to distribute content
  - Lists more select projects I have worked on
- **Linear**, a C++14 linear algebra all-header library  
<https://github.com/AmberThrall/Linear>
  - Multiple matrix decomposition methods, including: LUP, QR, Cholesky, Eigen, SVD and Schur
  - Eigenvalue and eigenvector methods
  - Equation solving of the form  $Ax = b$
- **rftps**, multi-threaded FTP Server written in Ruby  
<https://github.com/AmberThrall/rftps>
  - All core FTP commands fully supported.
  - Login information determined by unix system users.
  - Highly configurable using TOML config files.

## EDUCATION

### University of Arizona, Tucson, AZ

- Masters in Mathematics 2018 – 2020
  - Incomplete. Left to pursue software engineering.

### University of Washington Bothell, Bothell, WA

- B.S. in Mathematics 2016 – 2018
  - Cum Laude

### Everett Community College, Everett, WA

- Associates in Arts and Science (Direct Transfer Agreement) 2014 – 2016

## WORK EXPERIENCE

### University of Arizona, Tucson, AZ

- Graduate Teaching Assistant Aug 2018 – Dec 2020
  - Math 122B: First Semester Calculus Fall 2020
  - Math 120R: Calculus Preparation Spring 2020
  - Math 120R: Calculus Preparation Fall 2019

### University of Washington Bothell, Bothell, WA

- Undergraduate Teaching Assistant, First Year and Pre-Major Program Sep 2017 – Jun 2018

## AWARDS & SCHOLARSHIPS

- Mary Gates Research Scholarship Mar 2017 – Dec 2017  
Competitive scholarship awarded to approximately 160 students annually across all University of Washington campuses for engaging in research with a faculty mentor. (Press)
- Dean's List, University of Washington Bothell 2016 – 2018  
For attaining a quarterly GPA of at least 3.50 in 12 or more numerically graded credits each quarter for three quarters of the academic year.
- Tau Sigma Honors Society, University of Washington Bothell 2016 – 2018  
For attaining a GPA of at least 3.50 in 12 or more numerically graded credits in the first quarter as a transfer student.

## PUBLICATIONS

- P. Paparella and A. Thrall. Realizing Suleĭmanova spectra via permutative matrices, II, in press, *Linear Algebra Appl.*, 2019. 10.1016/j.laa.2018.12.030
- S. Hoover, D. McCormick, P. Paparella and A. Thrall. On the realizability of the critical points of a realizable list, in press, *Linear Algebra Appl.*, 2018. 10.1016/j.laa.2018.06.024

## RESEARCH EXPERIENCE

### University of Washington Bothell

- Undergraduate Research, Mathematics
 
  - Project: Real Nonnegative Inverse Eigenvalue Problem
  - Advisor: Dr. Pietro Paparella
  - Focus: Nonnegative matrices, permutative matrices, and real eigenvalues.

Jan 2017 – Jun 2018
- Research Experience for Undergraduates, Mathematics
 
  - Project: Perron Similarities and the Nonnegative Inverse Eigenvalue Problem
  - Advisor: Dr. Pietro Paparella
  - Focus: Nonnegative matrices, eigenvalues, and critical points.

Jun 2017 – Aug 2017

## PRESENTATIONS

- S. Hoover, D. McCormick, and A. Thrall. *On the realizability of the critical points of a realizable list*. MAA Undergraduate Poster Session at the Joint Mathematics Meetings, San Diego, CA. 12 Jan 2018.
- S. Hoover, D. McCormick, and A. Thrall. *On the realizability of the critical points of a realizable multiset*. University of Washington Bothell 2017 Research Symposium, Bothell, WA. 10 Aug 2017.
- A. Thrall. *Permutative Matrices and the Real Nonnegative Inverse Eigenvalue Problem*. University of Washington Undergraduate Research Symposium, Seattle, WA. 18 May 2017.

## VOLUNTEERISM

### Mid-Columbia Pride, Kennewick, WA (defunct)

- Web Administrator
 
  - Restructured website to be more up-to-date and professional. Also maintained the website to display upcoming events.
  - Volunteered for various community events.
  - Trained my replacement upon leaving.

2013 – 2014