

# Natalie Hollenbaugh

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## Education

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<b>University of Texas</b>	2018-2021
<i>MS Mathematics</i>	<i>Austin, TX</i>
<b>University of Washington</b>	2014-2018
<i>BS Mathematics (Comprehensive), BA Latin</i>	<i>Seattle, WA</i>

## Projects

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### Android app Minesweeper game

github.com/nahollenbaugh/mines

- Created a complete app with robust gameplay and persistent settings and score storage
- (In progress) Implemented game statistics and storage via Room
- Included a correct solver algorithm to provide hints

### Elliptic curve arithmetic

github.com/nahollenbaugh/ecg

- Wrote an implementation of elliptic curve groups over prime quotients of  $\mathbb{Z}$  and some related algorithms
- Unit testing with HTF
- Web interface using Yesod web framework

## Skills

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**Relevant coursework:** algorithms and data structures (uw cs), database systems (uw cs), cryptography (uw math) introduction to statistics (ut math, as a ta)

**Languages:** Java, Haskell

**Languages with some exposure:** JavaScript, PHP, CSS, SQL, Python (inc SageMath), Kotlin, MATLAB, R

**Elementary tools:** Android Studio, Linux,  $\text{\TeX}$ , xml, git

## Teaching and Service

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**Graduate student teaching assistant; TA specialist** 2018-2021; 2021-2022

- Calc I, Calc II, Differential Equations, Introduction to Statistics, Business Calculus and MATLAB
- Held course sections, wrote, administered, and graded quizzes, held office hours
- Helped business students learn to use MATLAB and taught basic programming concepts on-the-fly

**Directed Reading Program** 2019-2020

- Mentored undergrads in the University of Texas math department
- Helped students to define semester long reading projects
- Held one on one weekly meetings about their projects
- Guided students in giving talks in the program symposium

**Sunday Morning Math Group** 2018-2020

- Volunteered at a math circle where elementary through high school students work on enrichment problems and attend talks exploring concepts in math outside of the usual school curriculum

**Drop-in tutoring**

2018-2021

- Worked in university run drop-in tutoring program helping students with course material for undergraduate math classes