

# William Boyles

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## Education

### North Carolina State University

B.S. COMPUTER SCIENCE & MATHEMATICS

- Valedictorian, Summa Cum Laude, Phi Beta Kappa, Dean's List (8 semesters)
- University Honors Program, Computer Science Honors Program

Raleigh, NC

2018 - 2022

## Experience

### Microsoft

SOFTWARE ENGINEER

- Created near-real-time Spark data processing pipelines that handle terabytes of pricing data per day
- Automated common interactions with production, reducing mitigation times and risk of unintended changes
- Automated deployment of cloud infrastructure to airgapped environments, minimizing the need for manual steps

Redmond, WA

August 2022 -

### Microsoft

SOFTWARE ENGINEERING INTERN

Redmond, WA

Summer 2021

### IBM

CLOUD & COGNITIVE SOFTWARE INTERN

Durham, NC

Summer 2020

### Forsyth Country Day School

ENGINEERING CAMP COUNSELOR

Lewisville, NC

Summers 2016 - 2019

### Pool Professionals

LIFEGUARD

Winston Salem, NC

Summers 2017 - 2019

## Skills

**Languages:** Python | Scala | C# | SQL | Java | JavaScript |  $\text{\LaTeX}$  | HTML

**Technologies:** Spark | Azure | Bootstrap | Git

## Projects

### Lights Out

- Based on 1990's handheld electronic game, but has more features like dynamic board sizes
- Written in Java using Android Studio, released for free on Google Play Store

Android App

### NCAA Bracket Prediction

- Automatically scrapes the latest game data and outputs pre-filled bracket predictions as a  $\text{\LaTeX}$ -compiled PDF
- Python tool that implements PageRank, Elo, Bradley, and other custom ranking algorithms
- Algorithms consistently outperform average prediction tournament entries and my personal predictions

Python Tool

### wmboyles.net

- Personal domain containing resume, detailed project write-ups, and contact info
- Designed using Bootstrap and Jekyll, increasing mobile usability while minimizing code redundancy

Personal Website

### Math Summaries

- Summaries of college math courses written in  $\text{\LaTeX}$  and published as PDFs, allowing community contributions
- Committed to the public domain, providing educational information for free

Open Source Math Textbooks

## Writing

### Most Clicks Problem in *Lights Out*

- Introduced the Most Clicks Problem, and solves it for two specific instances

Research Article

### Resolution to Sutner's Conjecture

- Proves 30+ year old conjecture related to the Lights Out Game

Research Article