

# Zakary Nilsen

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## Education

### University of St. Thomas

B.S in Computer Science

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St. Paul, MN | May 2022

### Relevant Courses

Web Dev • OOP • Data Struct • Algo • Info Sec •  
Adv. Info Sec • Comp Arch. • Database Design  
• Computer Graphics • Deep Learning

## Programming Knowledge

### Programming Languages:

Java • JavaScript • HTML • CSS • PHP • Python • C •  
Node.js • Bash • MIPS • x86 Assembly • SQL • Perl

### Development Tools:

IntelliJ IDE • Eclipse IDE • VSCode • Github • Bash  
Shell • Foundation • VirtualBox • Mars • Azure Studio

## Projects

### Crime Data Map of St. Paul:

- Utilized *Node.js* and *Vue.js* combined along with APIs such as our St. Paul crime database, *Leaflet* for an interactive data map and *Nominatim* to gather locations and send it to dynamically update page
- Created a RESTful API to retrieve and filter data from *SQLite3* database
- Utilized *Express.js* to dynamically update page whenever the map or page is interacted with

### TommieCoin:

- Utilizing *Python* and *JSON* created an interactive blockchain, similar to *Bitcoin*, where users could either pay another user, interact with their own wallet or mine more TommieCoins
- Made sure when users were paying money that coin existed, and or had not already been spent and that minimal number of coins were used for payment to ensure a smooth process

### Pipeline Simulator:

- Developed assembly pipeline simulator in C to increase throughput of custom UST-3400 Assembly code.
- Had to deal with problems that pipeline encounters with instructions such as stalls and flushes of pipeline to make sure instructions were properly executed with most up-to-date values that were fetched

## Work Experience

### Soccer Referee | Minnesota State Referee Committee 2013-2019:

- Enforced rules of games, made tough decisions that had to be made to maintain safety and integrity of game and showed leadership skills through taking charge.

### Facilities Management | University of St. Thomas 2021-2022:

- Worked well as parts of team using strong verbal communication skills to ensure that setups were correct and finished in an orderly manner