

# Ben M. Dunko

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[bdunko.github.io](https://bdunko.github.io) | [github.com/bdunko](https://github.com/bdunko)

## Education

<b>Blacksburg, VA</b>	<b>Virginia Tech</b>	<b>May 2022</b>
• <i>Bachelor of Science in Computer Science</i>		<i>GPA: 3.4</i>

## Experience

<b>Software Development Intern</b>	<b>The OpenNMS Group</b>	<b>Summer 2020</b>
<ul style="list-style-type: none"><li>Designed anomaly detection system in Java, which used open-source anomaly detection models to analyze OpenNMS network metrics for irregular behavior</li><li>Developed Kafka consumer to poll for metric data, which was then organized into time series data and used to build EGADS anomaly detection models</li><li>Participated in an Agile software development environment using Jira and other Atlassian tools</li></ul>		
<b>Instructor</b>	<b>iD Tech Camps (UNC)</b>	<b>Summer 2018/2019</b>
<ul style="list-style-type: none"><li>Led camp classes and activities, taught introductory Python through game design to middle and high-school-aged campers using PyGame</li></ul>		

## Projects

<b>Capstone – Implementing Efficient Multithreading in PintOS   C</b>
<ul style="list-style-type: none"><li>Added multithreading support to the PintOS kernel allowing programs to create, manage, and join threads, enabling parallelization in user-level programs</li><li>Implemented synchronization primitives including locks, semaphores, condition variables, and barriers enabling user programs to synchronize between threads</li><li>Wrote and profiled the performance of several multithreaded test programs, achieving a 98% speedup per additional CPU core when compared to serial (single-threaded) performance in ideal conditions</li></ul>

### Plateau | C#, MonoGame

[bdunko.github.io/plateau](https://bdunko.github.io/plateau)

- Independently created life simulation video game project using MonoGame framework
- Implemented 2D physics and movement, dynamic audio, user interfaces, inventory and crafting systems, character customization, 2D pathfinding, a persistent world, and other features

### SheriffScorer | Java, Android

- Built scoresheet application for the Sheriff of Nottingham physical board game, allowing users to calculate scores and determine game-winner more efficiently
- Achieved 10,000+ downloads on the Google Play store with a 4.5-star average rating

## Skills

- Languages:** C, Java, C#, C++, Python, HTML/CSS, JavaScript, Ruby
- Tools:** Git, Linux (CentOS), Windows, Android, Bash, GCC, GDB, Valgrind, Jira