

# Zachary Burkett

burkettzach04@gmail.com | Orlando, FL | <https://www.linkedin.com/in/zach-burkett/> | <http://zachburkett.website>

## EDUCATION

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### University of Central Florida | Burnett Honors College

Bachelor of Science in Computer Science, Music Minor

*Expected Aug. 2025*

GPA: 3.81

*Honors: Dean's List (F' 22, S' 23, F' 23, S' 23), Benacquisto Scholar, National Merit Scholar*

## SKILLS / CERTIFICATIONS

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**Programming Skills:** Java, Python, C, C#, HTML/CSS, JavaScript, Git, GitHub, Unity, PyQt, Max

**Programming Certifications:** MTA Software Development, Java, Python, JavaScript, HTML/CSS

**Networking/IT Certifications:** CompTIA A+, IT Fundamentals | MTA Networking, Security Fundamentals

**Software Skills:** Microsoft Office Specialist | MTA Windows OS, Software Development | Ableton Live

## EXPERIENCE

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### University of Central Florida | *Programming Team Member*

*2022 - 2023*

Orlando, FL

- Worked in teams of 3 to quickly and collaboratively solve programming challenges
- Learned graph traversal algorithms: Dijkstra's, breadth-first search, depth-first search
- Implemented data structures: Tries, AVL trees, binary search trees, graphs, multi-dimensional arrays
- Used programming concepts: Dynamic programming, abstraction, recursion, polymorphism

### APPLeSEED Lab at UCF | *Undergraduate Research Assistant on C macro translation project*

*2024 - Present*

Orlando, FL

- Used Python and Clang to analyze and create graphics to visualize large datasets
- Performed analysis of C macro usage in the Linux kernel
- Collaborated using remote technology, Zoom, Slack, and Github, increasing project development

## EXTRACURRICULARS

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### Technology Student Association | *Sergeant-at-Arms*

*2020 - 2022*

- Developed onboarding processes for 31 new members during a rapid membership growth of 306%
- Established a scalable new organization system for teams using Notion and Python
- Placed second nationally in Video Game Development in 2021, using the Unity game engine
- Placed fourth nationally in Software Development in 2022, using Python and PyQt

## PERSONAL PROJECTS (SEE ZACHBURKETT.WEBSITE FOR MORE)

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### Manimator | *Open source math equation visualization software*

- Developed a working prototype of an open source math visualization software using Python and PyQt
- Had a full-stack role on the team, working on input parsing and data management
- Designed UI with focus on accessibility and ease of use for the target audience of education professionals
- Integrated the technology of the open source software *Manim* into the product

### Ludum Arca | *Educational puzzle game made with the Unity Engine*

- Scripted logic for the game, including a 2D Sokoban puzzle mini game
- Optimized codebase and troubleshooted for WebGL deployment to make the game playable in browser
- Led play testing and quality assurance, taking user feedback into account while designing the game
- Utilized Plastic SCM and Kanban to organize the project, doubling the collaboration seen in commits

### Break Pet | *Eye break reminder utility app for MacOS*

- Solo developed website, application, and graphics for Break Pet.
- Created as a "fix your own problem" project to help reduce eye strain while working.
- Technologies: Three.js/WebGL (rendering octopus), GLSL graphics shaders (Water caustic shaders), Bootstrap CSS (website), Swift (Mac application), Photoshop (Graphics), Github (SCM and hosting)

### CrushDrive | *Ableton Live audio effects plugin created in Max for Live*

- Created demo audio, website and application using Max, Bootstrap CSS, Photoshop, and Github
- Developed as an investigation into the capabilities of Max for Live and Ableton, as well as plugin design.

### Chordle | *Daily chord guessing game inspired by Wordle*

- Interactive chord guessing game made in HTML and Tone.js
- Music theory/software design challenges, ex. chord note names need to be relative to the chord generated