

## Zach Hannum

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### EDUCATION

North Carolina State University,  
*Bachelor of Science*, Computer Engineering  
*Bachelor of Science*, Electrical Engineering  
GPA 3.6

May 2017

### EXPERIENCE

*Kast Clothing*  
Co-Founder

August 2016 - Present

- Co-founded Kast Clothing, using technology to provide better fitting clothes online
- Created custom patterns and tested fit with real-time physics simulations
- Entered Lulu eGames, took 1st place, winning \$500 in the fan favorite Built on Cloud video
- Participated in the Andrew's Launch Accelerator Program during Summer 2017

*Best in the Verse Audio*  
Founder

May 2014 - Present

- Developed custom earphones using self-built photogrammetry scanner and SLA 3D Printer
- Created hand-crafted custom cables for audiophile headphones
- Increased yearly revenue 62% in 2017 with \$0 attributed to marketing
- Retained 9.76% repeat customer rate in 2017

### PROJECTS

*Audibooks*

Android application for listening to .mp3 audiobooks

- Built with persistence, list/grid views, and a sliding UI player
- Implemented services, adapters, custom ArrayLists, SQLite Databases, and JSON Queries

*Chip8mu*

Chip-8 Interpreter Emulator in C++

- Built to run programs made to run on a Chip-8 virtual machine on 8-bit computers
- Implemented 35 opcodes, graphics with SDL/OpenGL, and a command-line debugger

*OoOE Superscalar Processor Simulator*

North Carolina State University — Advanced Microprocessor Design (ECE 463)

- Designed a dynamic out-of-order superscalar processor in C
- Wrote and Debugged over 1000 lines of code to simulate N-width instruction life-cycle

*Autonomous Remote Control Car*

North Carolina State University — Intro to Embedded Systems (ECE 306)

- Coded remote control and line-following behavior in IAR Embedded Workbench (C)
- Improved base design by including 3D-printed parts to increase black line tracking efficiency
- Enhanced remote functionality by integrating an Android app with joystick capabilities

### SKILLS

*Languages & Software:* C, C++, Java, HTML, CSS, XML, Linux, Android Studio, Eclipse, Matlab, Github, Arduino IDE, SQLite, IAR Embedded Workbench, Keil uVision5, Kicad/Eagle, Fusion360

*Technical Skills:* PCB soldering, breadboard circuit design, building PC's, building and operating FDM and SLA 3D Printers