

# Timothy Southwick

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[github.com/NickNackGus/Portfolio](https://github.com/NickNackGus/Portfolio)  
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<https://github.com/TeamMonumenta/>

My goal is to develop innovative software.

## **EDUCATION**

### **University of Massachusetts Lowell, Lowell, MA**

*Master of Engineering in Computer Engineering*

GPA: 3.5/4.0

July 2018

*Bachelor of Engineering in Computer Engineering*

GPA: 3.1/4.0

May 2016

## **RELEVANT SKILLS**

<b>Languages</b>	Java	C/C++	Rust	Python 3	Python 2	Verilog	
	JavaScript	JSON	Lua	BASH	BASIC	Assembly	
<b>Software</b>	Linux	Git	SSH	Maven	LibreOffice	OpenOffice	Microsoft Office
	Redis	RabbitMQ	Kubernetes	Docker	screen	tmux	ALSA
<b>Hardware</b>	FPGA	I2C	PIC Microcontrollers		Raspberry Pi	Arduino	LEGO robotics (using C)

## **PREVIOUS EXPERIENCE**

Lead Developer for Monumenta (MMORPG based on Minecraft, joined Summer 2017)

- Website: <http://www.playmonumenta.com/> Username: NickNackGus
- Working independently and collaboratively with a global team of over 50 people.
- Helped deploy a network of 70+ Kubernetes Docker deployments on 4 domains across 3 dedicated servers, with RabbitMQ for messages and Redis for long-term player data.
- Writing and maintaining Python/Rust automation programs for weekly updates and maintenance.
- Writing cross-server Java plugins, including:
  - Chat plugin with configuration saved as json in Redis and messages via RabbitMQ.
  - Timing-sensitive scoring system providing eventual consistency.
- Developed custom parser of JSON-like data for use in a data editing tool.

Firmware Engineer for Doble Engineering July 2019-July 2021

- Working on high level firmware for signal generation, data acquisition, and signal analysis for use in power transmission and protection equipment testing.
- Worked on file transfer, debugging DHCP network issue.
- Automated collection and processing of error code logs for quarterly reports.
- Devised and implemented method to process large amounts of data in the background using a small amount of memory.
- Firmware in C++ via gcc, debugging with gdb, testing with Python, and committed through Git.
- Connection to Linux test hardware via SSH and screen.

Full-time Linux user since 2009

- Home desktop doubles as SSH/SFTP file server.
- Wrote 150+ programs for daily use and amusement in BASH, Python, Lua, C, and assembly.

Capstone Project: Audio Processor for Mobile Audio Editing and Recording

- Used the BeagleBone Black, Debian, C, I<sup>2</sup>C, ALSA, and ssh to record, edit, and play audio.

Robotics

- Used Python, Raspberry Pi, Firmata, and Arduino to control the robot.