

Charles Wilkin

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Address: 531 Highspire Rd.
Glenmoore, PA, 19343
USA

Email: Charlie@BusyBoredom.com
Website: BusyBoredom.com
Github: GitHub.com/busyboredom

EDUCATION	Electrical Engineering B.S. – <i>Pennsylvania State University</i>	May, 2020
	Physics B.S. – <i>West Chester University</i>	May, 2020
EXPERIENCE	Electrical Controls Engineer – <i>Universal Machine Company</i>	Jul, 2019 – Present
	UMC designs and builds custom machinery for industrial automation. <ul style="list-style-type: none">• Programmed PLCs, HMIs, and robotic arms for custom machinery according to each client's unique requirements.• Automated onboard logging and reporting, meeting strict regulatory requirements for completeness, security and reliability.	
	Co-Founder – <i>Vinegar Hill, LLC</i>	Jan, 2018 – Present
	Vinegar Hill LLC is a small meadery run by five young professionals, founded to gain entrepreneurial experience.	
PROJECTS	SobreMesa SCADA – A framework for web-based industrial control and data acquisition using only open-source tools.	Dec, 2020 – Present
	BusyBoredom.com – A portfolio website made using a systems-level language compiled to WebAssembly instead of JavaScript.	Jan, 2020 – Present
	Sunblock – Shield your eyes from the sun with a motorized sun shade using Haar cascades and OpenCV.	Dec, 2020
	Gooba – An event-driven spiking neural simulator written in rust.	Dec, 2020
	PocketLawyer – A hackathon team project to automatically detect, record and transcribe abusive language (won 2 nd place).	Nov, 2020
	GetOffTheRoad – A hackathon team project to notify drivers of problematic weather conditions.	Nov, 2019
	Amplifier Optimizer – A genetic algorithm that does your circuit design homework.	Apr, 2019
	The Inebriator – An automated bartender.	Mar, 2019
	JudgementBot – A selfie-rating convolutional neural network.	Jan, 2019
	Bro Server – A collection of self-hosted projects including XMPP, Bitwarden and Git servers.	Jan, 2019
SKILLS	Languages – C++, Python, Rust, JavaScript, MATLAB, VBA.	
	Databases – MySQL, PostgreSQL, MSSQL.	
	Backend – Flask, Actix-Web.	
	Frontend – HTML5, CSS, Qt, WebAssembly.	
	Libraries – NumPy, SciPy, Pillow, OpenCV, libpctag, Serde, Matplotlib.	
	Tools – CMake, GCC, Git, Cargo, Tensorflow, Linux Command Line.	

Programming Since 2011 (10 Years)