



RELEVANT SKILLS

programming (see PROJECTS & EXPERIENCE)

Python	3 years	MATLAB	6 months	OpenGL	PyQT	C++
Lua	2 years	Java	6 months	SQL	LÖVE 2D	Arduino
HTML/CSS/JS	3 years	Scheme	4 months	WinAPI	BPy	C#
C (embedded)	2 years	AHK	5 years	CherryPy	Bash	PIC ASM

software construction

- Open source development experience – 35+ published projects over 4 years.
- Proficient using Git DVCS – 4 years experience.
- Comfortable in UNIX-like and Windows environments.
- Familiar with test-driven methodologies and agile development.
- Experienced at object oriented and functional design strategies.

visual design

- 4 years experience with Blender3D for interactive 3D media.
- 3 years experience with GIMP and Photoshop for digital art.
- 6 months experience with AutoCAD, SolidEdge, and DesignWorks Mechanical.

miscellaneous

- Competent at electronic circuit design/construction and EDA/ECAD tools.
- Experience typesetting technical documents with LaTeX – 1 year.
- Bachelor of Computer Science candidate; digital hardware option (University of Waterloo).
- Recipient of Governor General Academic Medal, high school level.
- Familiar with MATLAB and Maple mathematics software.

PROJECTS & EXPERIENCE

See github.com/Uberi for the most up-to-date listing of my public project releases.

Goostenstein: Nesting Season git.io/o7mqYg

In a team of 4, created an action-packed sidescroller game over the course of 24 hours using Lua and the LÖVE game engine. One of the 4 winning entries of HackWATERLOO 2014! Maintained and publicly released game after competition.

Motion Tracking git.io/JZwtLg

Wrote, documented, and maintained Blender3D add-on for point reconstruction through motion tracking points in 2D from multiple viewpoints, using an optimized best-fit algorithm.

Achromatic git.io/hCinkg

Built a minimal, fast-paced 2D platformer built on top of ProgressEngine, a custom game engine. Playground for gameplay experiments such as nonlinear time and non-visual feedback.

The Mesecon Laboratory uber.github.io/mesecons.net

Authored various articles about digital circuit design with Mesecons, with beginner, intermediate, and advanced tutorials. Contains full walkthroughs and demonstrations with detailed images, instructions, and analyses.

Various Contributions

Maintainer and contributor to Mesecons (circuitry mod), Pipeworks (piping mod), ahkbook (wrote the Structures tutorial), MikroC tutorial (setting up Mikroelektronika's embedded C environment), and Yunit (testing framework). Participated in Google Code-in, SE Hack Day #10 and #11, BattleHack, Google Games 2014, hackWATERLOO, and various others.

Research Assistant

Ryerson University – modelled and simulated different biosensor configurations in order to maximize efficiency. Created intuitive software to visualize parametric sweep data, as well as software used to run simulations on large-scale computing clusters.

Out of the Sea goo.gl/U3uBP4

Created and published a 2D game for Ludum Dare Jam #24, written in 72 hours entirely in AHK – one of the few of its kind. The entry won a bronze medal in the “coolness” category!

MT-WorldEdit git.io/6hFJ6A

Actively maintained, documented, and lead development of popular voxel manipulation program for Minetest, adding a rich set of tools and comprehensive documentation.

Various Applications

Authored and published applications such as MeseconEdit (circuitry simulator), Autocomplete (popular text completion software), Autonomy (research programming language), and MODSTER (foolproof mod installer).

Various Libraries

Authored/published software libraries such as Speech Recognition, Pathfinder (grid A*), Bayesian Classifier, Spelling Corrector, AHK DB (database abstraction layer), Parallelist (multiprocessing library), Geolocation (wifi-based online geolocation), ProgressEngine (2D game engine), and Canvas-AHK (2D graphics library).