Johnathan Machler

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EDUCATION

University of Minnesota Duluth, *B.S.E.E. G.P.A.: 3.0* — *Aug 2017 | May 2020*
Duluth, Minnesota

Century College, *Transfer Student G.P.A.: 3.4* — *Aug 2014 | May 2017*
White Bear, MN

EXPERIENCE

Machler Labs, *Founder* — *July 2024 | Present*
Minneapolis, MN

- *Develop products from concept to launch.*
- *Set the strategic vision and identify growth opportunities.*
- *Handle all operations, budgeting, and management tasks.*
- *Build partnerships and secure funding independently.*

Abbott Laboratories, *Electrical Engineer II (Contractor)* — *Dec 2021 | July 2022*
Little Canada, MN

- *PCBA design for impedance test fixture, including test method development to meet IEC 60601 standards.*
- *Root cause troubleshooting and component derating analysis for an Analog Front End (AFE).*

Leonardo DRS, *Electrical Engineer I* — *June 2020 | Aug 2020*
Melbourne, FL

- *PMIC troubleshooting on electro-optical sensors and displays, along with footprint part creation in OrCAD and other miscellaneous CCA work.*
- *HIL simulation, testing, and Verilog code documentation for a FWS (Family Weapon System).*

SKILLS

Programming Languages:	*C++/C, MATLAB, VHDL, Python, LaTeX*
Operating Systems:	*Windows, Linux, FreeBSD*
Modeling & Sim:	*LtSPICE, NGSPICE, Cadence, Pspice, Simulink, Modelsim*
Documentation:	*Microsoft Suite, Juypter Notebooks, Roam Research*
Version Control:	*Windchill, Github, Subversion, Jira*
PCB Layout:	*Altium Designer, KiCAD, Eagle, EasyEDA, Allegro viewer, OrCAD*

PROJECTS

Toyquy, *Kivy, Python, Java, Docker, OpenCV, GCP API, Openai*
Toyquy uses computer vision to identify dolls and AI models to generate realistic conversations between them, creating the illusion that the dolls are interacting, all controlled by the app on the phone.
https://machler.xyz/portfolio/AndroidApps/Toyquy/

Combat Search & Rescue locator for GPS-denied environments,
Researched and Developed a SATCOM watch & shortwave radio /camera system to locate a downed airman in the middle of the ocean
https://machler.xyz/portfolio/09-AFRL-Poster.pdf

Single Cycle MIPS 32-Bit Processor,
Developed a MIPS (harvard type) processor which was modeled on a FPGA board using VHDL & ASM.
https://machler.xyz/portfolio/HDL%20Projects/VHDL/

Anaglyph Stereogram Generator, *MATLAB*
Created a program in MATLAB which would generate 3D views from silhouette images .tifs
https://machler.xyz/portfolio/ProgrammingProjects/Matlab-Proj-master/Stereogram/

Electronic Business Card PCBA, *EasyEDA*
Created a PCB board layout for a electronic business card that uses NFC.
https://machler.xyz/portfolio/PCB%20Layout/

Robotic Etch-A-Sketch,
Created an Etch-A-Sketch which could draw a perfect circle using a Parallax microcontroller in BASIC with a H-Bridge driver to control servos
https://machler.xyz/portfolio/Robotic%20Etch-A-Sketch/

Deployable Drone,
With a team constructed a drone which used a pixhawk flight controller was involved with some of the testing & CONOPS

ACHIEVEMENT ***Air Force Research Lab Challenge Coin***, *AFRL* *Dec 2021*
I received this award for creating a unique solution that was proposed to me in my team create a SWaP-C optimized solution for the Air Force

Ham Radio License Extra Class (KD0MOO), *FCC* *Feb 2023*
Studied and passed the Extra class license exam.