ray schuler

schuler@usa.com • https://schuler-robotics.github.io/resume/

SKILL SET

Analog Circuit Designer - CMOS, BiCMOS, Transceivers, High Voltage Drivers, Signal Conditioning, Power Conversion, and Precision Reference

Software Developer - Hardware Control, Embedded Systems, Simulation, Product Characterization, Statistical Inference, Library and API development

Systems Designer - Ultrasonic Ranging, Power Conversion, RF Control, Parametric Measurement Units, Thermal Management, and Transduction

Mechanical Designer – Optical Alignment Fixtures, Product Prototyping, Component Modeling in Freecad, and 3D printing

Instructor - Systems Programming, Collaborative Software, FOSS Development, Product Development, and STEM

Student - Life Long

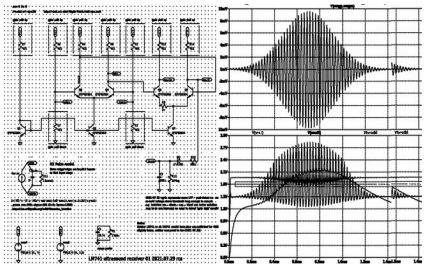
EDUCATION

Michigan Tech:
BSEE Microelectronics and Control Systems

National Technological University:
VLSI Design (UMN), Analog Circuits (MIT), Computer Graphics (UMASS), Complex Variables (Vassar), Semiconductor Device Physics (Syracuse)

EMPLOYMENT

Schuler Robotics	2021-present
GlobalFoundries	2008-2021
Linear Technology	2002-2008
Champlain College	2012-2014



LANGUAGES

★★★★★ **English**

★★★★★ **C/C++**

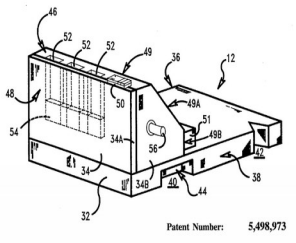
★★★★ **Python/Bash**

★★★★ **R/Matlab/Lisp**

SAMPLE WORK

bitbucket.org/rschule2/design

bitbucket.org/rschule2/champlain



Laser Bar Chuck US Patent No. 5,498,973

REPRESENTITIVE PROJECTS

Product Research and Development (Schuler Robotics) 360º Ultrasonic Ranging System. Minimal cost prototype, self calibrating, wireless ultrasonic control signaling. System design and modeling in LTspice and Freecad, 3D printed components and packaging. Further details at 'https://github.com/schuler-robotics/resume/blob/main/ultrasound.pdf'

Custom Analog Circuit Development (Global Foundries, Essex Junction, VT) Lead designer and software architect for RF/Analog Transceiver Antenna Control. Developed and implemented design methodology, version control, and design reviews for RF design and characterization teams. Please see design documentation with "Sample Work" on page 1.

Custom Analog Circuit Development (IBM, Essex Junction, VT) Lead designer for RF/Analog Products. Developed IC's for OEM vendors, including the first all CMOS read channel for Apple, Inductive and Capacitive SMPS modules, and technology benchmark circuits in CMHV7SF and CSOI6/7RF. Designs included objective specifications, analog and physical design, HW characterization, and customer application notes. Design tools included Cadence Analog Artist/Allegro, as well as C/C++, Bash, Python, and R.

Mixed Signal Wired Transceiver IC Design (Linear Technology, Colchester, VT) Custom analog designer for OEM ICs, including LTC2859-2861 RS485 transceivers-- the first commercial device with integrated load resistor, and LT1785-1791 HV Isolated RS485/CAN transceiver-- field fail analysis and successful metal-mask redesign of isolation path state machine. Founding member of Linear Technology Design Center, Colchester, VT.

GaAs Laser Diode Characterization System (IBM, Essex Junction, VT) Lead inventor of the first production, computer controlled, cleaved, bar laser diode test system; self aligning mechanical chuck pictured on page 1. Principal electrical, optical, mechanical, and software designer. Software development in C++ and Matlab, including frequency domain beam categorization algorithm. System transferred to IBM Research, Zurich, and sold to Siemens AG, Germany. US Patent 5498973.

Course Development and Instruction (Champlain College, Burlington, VT) Adjunct Professor of computer science. Developed and taught multiple sections of "UNIX System Programming", and "Open Source Software Development." Please see course syllabus and example projects included with "Sample Work" on page 1. Average student rating of 91/100.

OTHER EXPERIENCE AND INTERESTS

Mechanical Design / 3D Printing, Photography, Guitar, Coaching, Generative Art, and Cooking.