

# Stephane Constantin

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## SUMMARY

I have developed electronic products for the consumer and research industry, including educational toys, walking robots, and balloon weather systems. The majority of my work experience has been in small tech startups where I was responsible for all phases of development from conception to manufacturing including hands-on prototyping. I gained experience in both hardware and firmware development and understand how the interaction between those two disciplines can create successful products. I am currently looking for new opportunities where I can fully utilize my skills and work towards a new challenge.

## SKILLS

Product Design • R&D • Prototyping • Schematics • PCB Layout • Component Research • Cost Optimization • DFM • Production Support • Test Jigs • Battery Circuit • Sensors • Motor Control • Bluetooth • Embedded Firmware • Microcontrollers • C & C++ • ARM • Atmel • Microchip • ST Micro • Nordic Semi • UART • SPI • I2C • USB • PWM • Bootloaders • Matlab • Cadsoft Eagle • Python • LabView • PHP • GIT • HTML • Oscilloscope • Logic Analyzer • Fluent in French

## WORK EXPERIENCE

**Modular Robotics Inc, Boulder CO**

**June 09 - present**

*Lead Electronics Engineer*

As the principal EE at Modular Robotics, a small venture-backed company, I had the opportunity to develop the electronics for two educational robotic toys *Cubelets* and *Moss*. It has been a tremendous experience to see my electronic designs, including hardware and firmware, evolve from drawings, block diagrams, and algorithms to mass-produced products.

- Coded robot behavior firmware in C on AVR, PIC, and ARM microcontrollers
- Designed communication systems including a tailor-made serial muxing protocol
- Designed an FCC certified Bluetooth circuit that communicates wirelessly to smartphones
- Routed very dense PCB layout (up to 24 components on a 2x2 cm PCB)
- Designed and built bed-of-nails test jigs to ensure high quality of PCB's in production
- Designed Lithium cells protection and USB charging circuits that satisfy CE & ASTM standards
- Supervised and guided junior level electrical engineers and interns
- Worked closely on a cross-functional team of software, mechanical and production engineers

**Creative Machines Laboratory, Cornell University, Ithaca NY**

**June 08 - June 09**

*Research Assistant*

- Designed circuits for research projects including self-configurable robots, soft robots, 3D printers
- Developed "Mini Twist", a compact, lightweight and wireless-controlled linear actuator intended for precise robotic applications
- Contributed to robotic research and literature with various publications in peer-reviewed journals

## ADDITIONAL EXPERIENCE

**NCAR, Boulder CO and Space Sciences Laboratory, Berkeley CA**

**Aug 14 - present**

*Atmospheric Research Volunteer*

Developed TILDAE, an experiment to study turbulence in the upper stratosphere scheduled to fly on NASA's GRIPS balloon at 40 Km above Antarctica. I designed and prototyped an Arduino shield that gathers weather parameters such as wind velocity, temperature, and acceleration, stores the data on SD cards and communicates with the main flight computer.

## EDUCATION

*Electrical and Computer Engineering, Cornell University, Ithaca NY*

BSc in 2008