Maxx Tepper | Hardware Engineer

11748 Kiowa Ave#1 – Los Angeles, CA 90049
(661) 803-8704 • maxxtepper@gmail.com
www.linkedin.com/in/maxxtepper/ • www.github.com/maxxtepper/

Lead engineer responsible for the UCLA High Energy Physics Group's design of FPGA-based high-speed data processing cards for the CERN laboratory in Geneva, Switzerland

Technical Skills

- **Electronics Design:** OrCAD Capture CIS and Allegro; Experienced in the design of custom digital circuitry with FPGAs, high-speed optical transceivers, multi-GHz SerDes, DDR interface, clock networks, ethernet, USB 2/3, SATA, DisplayPort, UART, I2C, SPI, JTAG
- **Electronics Testing and Debugging:** Experienced in testing and debugging digital and analog circuitry using equipment such as oscilloscopes, function generators, DVM, and soldering
- **Programming and Software:** Experienced in C/C++, ROOT, MSOffice. Some experience in Python, CUDA, Bash, Git, LaTeX, SQL

Relevant Experience

- **Hardware Development Engineer** — **Los Angeles, CA**
  UCLA High Energy Physics — *August 2017–Present*

  Responsible for the development of printed circuit boards following the AdvancedTCA specification for future upgrades to the CMS Barrel Muon Phase-2 trigger, organized and operated by CERN
  - Worked with physicists and engineers to develop the system design and specifications
  - Designed schematics and layout for a Xilinx Ultrascale+ FPGA, high-speed optical transcievers, DDR4 memory interface, and an ethernet switch, while meeting the standard for the AdvancedTCA specification
  - Designed schematics and layout for prototype boards for high power voltage regulators, 28Gbps optical transceivers
  - Tested and debugged prototype boards, iteratively making boards into a final working state
  - Develop and upkeep embedded software framework for components such as power monitors and synthesizers
  - Managed fabrication and assembly of prototype boards by facilitating all communications with manufacturers
  - Setup test-benches, ordered equipment for the electronics lab space, and created and managed a CAD parts database using SQL (OrCAD Capture CIS)

- **Lab Assistant II** — **Los Angeles, CA**
  UCLA High Energy Physics — *August 2016–June 2017*

  Responsible for generating a new particle physics lab space for a new professor, and for assisting in the Electronics for Physical Measurements course for undergraduates of physics
  - Developed code for testing memory latency of GPU hardware, utilizing C++/CUDA libraries
  - Purchased high-speed digital electronic equipment for research and development laboratory
  - Assembled/disassembled and calibrated RF components for the Atlantic Impulsive Transient Antenna
  - Assist students on build and diagnosing electronic circuits, along with testing and quizzing them on concepts as they work through the lab assignments
  - Ensure supplies and equipment are prepared for each lab, ordering parts if necessary

Education

- **Bachelor of Science in Physics and Minor in Mathematics** — **Los Angeles**
  University of California, Los Angeles, GPA: 3.2/4.0 — *August 2013–December 2015*