Matthew Czubakowski

Electrical Engineer in Los Angeles, CA

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EDUCATION:

California Institute of Technology, BS, Electrical Engineering, *Class of 2009*

- Courses included Electromagnetic Engineering, Solid-State Electronics for Integrated Circuits, Digital Signal Processing, Demonstration Lectures in Optics, Microprocessor Systems Laboratory, and Waves, Quantum Physics, and Statistical Mechanics

WORK EXPERIENCE:

Raytheon Space and Airborne Systems, Electrical Engineer II, *September 2009-Present*

- Designed, tested, and validated electronic systems at module, PCB, and circuit levels
- Performed test systems design, including both hardware and software
- Completed schematic capture, physical design, integration, power analysis, timing closure, functional verification, and tape-out from transistor to chip level
- Designed and implemented digital and analog blocks in multiple mixed-signal ASICs with first-pass success in IBM and Jazz submicron foundry processes using Cadence tools
- Created an internal information-sharing and productivity reporting platform in Microsoft SharePoint used by dozens of managers
- Provided production support, including documenting acceptance requirements, updating test procedures, and coordinating documentation releases

***Caltech SURF*,** Aerospace Corporation SURF Fellow, *Summer 2007-Summer 2008*

- Conducted research on the subject of Silver-Bonded Lithium Niobate Thin Films under Dr. Harry Atwater for use in electro-optic waveguides and displays

Bionic Harvest Inc., Engineering Intern, *Summer 2006*

- Constructed and tested MEMS micro-power generator devices

PUBLICATIONS AND CONFERENCES:

K. Diest, M. J. Archer, J. Dionne, Y. J. Park, M. Czubakowski, H. A. Atwater, **Silver diffusion bonding and layer transfer of lithium niobate to silicon**, Applied Physics Letters **93,** 092906 (2008)

K. Diest, J. Dionne, M. Czubakowski, M. J. Archer, Y. J. Park, H. A. Atwater, **Full-Color Electro-Optic Resonator-Based Plasmonic Display**, MRS Spring Conference, 2008, (L5.5)

RELEVANT SKILLS:

- Circuit design, layout, and schematic tools, including Cadence Virtuoso, Allegro, Encounter, Analog Design Environment, TCL scripting, NCSim, and SPICE tools
- Fabrication and testing of optical, solid-state, and RF devices in a clean room environment
- Lab equipment including oscilloscopes, network analyzers, function generators, lock-in amplifiers, wafer probe, and surface-mount soldering
- C++, Verilog, x86 assembly, Python, and Javascript programming
- Some experience with C, Matlab, Labview, Standard ML, PHP, CSS, Git, and Subversion
- Solid-state and thin-film fabrication and testing methods, including wafer bonding, photolithography, sputter deposition, and SEM (scanning electron microscopy)

OTHER ACTIVITIES AND LEADERSHIP:

- Hobbies include piano, violin, video production, web design, and hobbyist electronics, including PC building and Arduino hacking
- Upperclass Director-at-Large, Associated Students of Caltech (ASCIT)