

ALEC POITZSCH

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Background

Currently employed as an Analog Design Engineer (Integrated Circuits) at Analog Devices, Inc. in Wilmington, MA.
Graduated from Massachusetts Institute of Technology (BSc '13, MEng '14) – GPA 4.7/5.0

Interested in analog & digital systems with coursework in E&M, device physics, circuit design, and software.

Eta Kappa Nu EECS Honor Society (Eligibles Chair), CSL Team, IEEE Member, GRE: 165M/166V/5.5W
Graduated class valedictorian (Rank 1/713, GPA 4.0) in 2009 from Pinkerton Academy in Derry New Hampshire.

Work Experience

Analog Devices – Linear and Precision Technology Group Summer of 2014 to Present

3 years+ of experience as an Analog Design Engineer focusing on high-speed and precision amplifier architectures.

Currently serving as design lead for a breakthrough high voltage amplifier project in 225 V DMOS process.

Architected amplifier signal path, bias circuit, and peripheral circuitry. Patent-pending amplifier architecture.

Obtained successful silicon in March 2017, final product release scheduled for Q1 2018.

Designed and implemented successful silicon for internal projects and future amplifier developments.

Analog-focused BJT & MOS work with exposure to mixed signal and digitally-enhanced analog (fuse trim).

Focused research on the development of IP and hardware implementation which achieves breakthrough amplifier performance in the domains of high voltage, high current drive, high slew rate, and DC precision.

Recipient of 6 performance awards for contributions to ongoing development efforts. Promoted in 2017.

Analog Devices – Linear Products Group Summer of 2013

8 month internship – Masters of Engineering Thesis Work under the guidance of Stefano D'Aquino

Designed a high current output operational amplifier in 40 V bipolar process (XF40)

capable of driving 1 Ampere, 100 MHz bandwidth, 3000 V/ μ s slew, low distortion,

low input offset ($<100 \mu$ V), low input headroom. Link: <https://dspace.mit.edu/handle/1721.1/91698>

Created a bipolar amplifier architecture using an H-Bridge input stage with full base current cancellation.

Performed extensive transistor-level design and simulation in Cadence and ADICE (SPICE).

Linear Technology – Energy Harvesting Summer of 2012

2 month summer internship under the guidance of Dave Loconto

Built an energy harvesting circuit for use in conjunction with the LTC3115 DC/DC power converter. This circuit was a servo loop which allowed Maximum Power Point setting for use with a photovoltaic cell.

Performed extensive simulation in SPICE.

MIT CSAIL – Robotics and Vision Sensor Networks Lab Summer of 2011

2 month summer UROP under the guidance of Professor Seth Teller

Designed and constructed a mount for a movable nodding LIDAR in SolidWorks.

Coded software to translate raw sensor data into a 3D point map & integrated the sensor into a network.

MIT Media Lab – house_n Group Summer of 2010

2 month summer UROP under the guidance of Professor Stephen Intille

Development team member on the wockets project, a real-time activity sensor.

Contributed to firmware and hardware and implemented a novel means of data compression.

Publications

International Society for Magnetic Resonance in Medicine (ISMRM) Conference in Montreal 2011/2012 Poster:
“MR Endoscope with Software-Controlled Tuning, Device Tracking and Video”