

Matthew Cox

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EDUCATION

MASSACHUSETTS INSTITUTE OF TECHNOLOGY (MIT)

MENG, ELECTRICAL ENGINEERING
2024 | Cambridge, MA
SB, DOUBLE MAJOR - ELECTRICAL ENGINEERING AND MATHEMATICS
2023 | Cambridge, MA
GPA: 5.0 / 5.0

COURSEWORK

Solid-State Circuits (6.301)
Nanoelectronics (6.012)
Electromagnetics & Applications (6.013)
Signal Processing (6.003)
Computation Structures (6.004)
High Speed Comm. Circuits (6.776)
Power Electronics (6.334)
CMOS Analog IC Design (6.775)
Advanced Power Electronics (6.332)
Power Electronics Lab (6.1311)
Nanofabrication (6.152)
Electromagnetic Waves (6.630)
Feedback Control (6.302)
FPGAs (6.2050)

SKILLS

ELECTRICAL ENGINEERING

Analog Circuits
RF Circuits
Power Electronics
IC Design
• Cadence Virtuoso
PCB Layout
• Eagle • Altium Designer

PROGRAMMING

Proficient (over 10,000 lines):
• Python • SystemVerilog
Experienced (over 1,000 lines):
• \LaTeX • Arduino • Java • C • C++ • HTML
• Javascript • Bash
Familiar (over 100 lines):
• Assembly (RISC-V) • Minispec HDL • Matlab

EXPERIENCE

APPLE | ANALOG IC DESIGN AND MODELING ENGINEER

September 2024 - Present | Waltham, MA

- Verilog modeling of SERDES analog circuits
- Analog circuit design, primarily ADC blocks

MIT | MENG RESEARCH (UNDER RUONAN HAN)

September 2023 - August 2024 | Cambridge, MA

- Researched applications of large language models to assist in circuit design
- Thesis: Evaluating Large Language Models as Circuit Design Assistants

ANALOG DEVICES | ANALOG IC DESIGN INTERN

June - August 2023 | Wilmington, MA

- Designed a new topology of analog buffer with fixed 50-ohm output impedance.
- Voted by Analog Devices employees as "Most Creative" intern project

NORTHROP GRUMMAN | MMIC/RFIC DESIGN INTERN

June - August 2021 | Baltimore, MD

- Worked on a novel RF transmit/receive switch MMIC to optimize matching, simulate performance, improve device models, and begin layout

JOHNS HOPKINS APPLIED PHYSICS LAB | INTERN

June - August 2020 | Laurel, MD

- Designed, built, and tested power supply circuitry for UAVs

AWARDS

- Phi Beta Kappa honor society

ACTIVITIES AND INTERESTS

- MIT Educational Studies Program (2019-present) - *Head Webmaster* (2022-2024), *Director of Spark* educational program (Mar 2022), *Treasurer* (2021); regularly teach classes to middle/high school students; continue to help webmaster team as an alum
- MIT Radio Society (2019-present) - elected *Station Manager* (2020-2023), *Vice President* (2023-2024)
- Amateur (Ham) Radio - highest ("Extra") license class since August 2018