

# 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  
Experienced (over 1,000 lines):  
•  $\LaTeX$  • Arduino • Java • C • C++ •  
SystemVerilog • 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

- Analog chip design
- Behavioral modeling

### 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 used to demonstrate AI warfighting capabilities

## AWARDS

- Phi Beta Kappa honor society

## ACTIVITIES AND INTERESTS

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