ELECTRICAL & COMPUTER
ENGINEERING

EMPOWERING TOMORROW'S INNOVATIONS

University of Colorado **Boulder**

Innovating our digital world

Electrical and computer engineers impact the world around us – everything from devices at our fingertips to large-scale technologies in energy, climate, transportation, health and space.

The Department of Electrical, Computer and Energy Engineering at the University of Colorado Boulder is one of the premier undergraduate programs in the country. Our students and faculty are advancing science, innovation and technology.

Explore the possibilities to change the world!

Hikers navigate Colorado's beautiful trails with **GPS technology** that communicates with satellites in space.

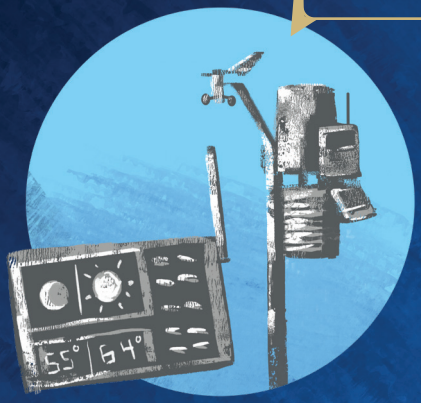
Health professionals turn to medical **imaging** and **optics** such as X-ray, ultrasound and MRI to help patients.

Quantum computing will solve complex computation problems that are out of reach even for the most powerful supercomputers today.

Semiconductor chips and **control systems** play a crucial role with power steering, braking systems and entertainment in conventional and electric vehicles.

Google Maps and Waze use **machine learning** and **artificial intelligence** to predict traffic on your commute.

Pilots use **radio frequency** to communicate with air traffic controllers. Planes operate using electronic systems to ensure a safe flight from takeoff to landing.

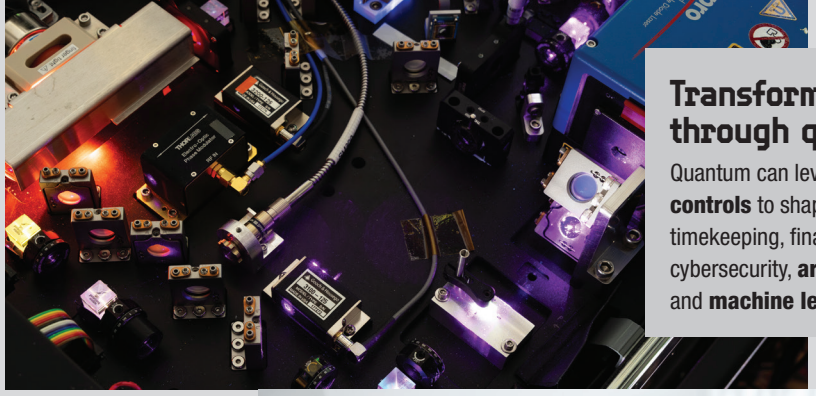


Scientists use weather station **sensors** to monitor climate change.

Engineers are saving our planet by integrating clean, **renewable energy & next-generation power systems** to light our world.

Making a difference

From quantum computing and wireless communication networks to biomedical devices and sustainable energy, you will build technical expertise and creativity to solve tomorrow's challenges.



Transforming through quantum

Quantum can leverage **photonics** and **controls** to shape areas in sensing, timekeeping, financial modeling, cybersecurity, **artificial intelligence** and **machine learning**.

Robotics serving humanity

Unmanned aerial vehicles, drones and robotics use **sensors and power electronics** to assist in everything from wildfire management to agriculture and national defense.

Foundations of computing

Computer architecture design and data science are fundamental for connecting our homes and phones via the **Internet of Things**.

There's an app for that

Our cell phones, laptops and smartwatches use **circuits, chips, microprocessors, cameras and batteries** so that we can chat with our friends and families.

Shaping our global future

Fighting climate change requires **next-generation power** from **renewable energy** while monitoring Earth's changing climate through **remote sensing technologies** like radar.

Caring for patients

Healthcare professionals use **signals** for biomedical devices and surgical tools to address injuries, diagnose illnesses and treat diseases.

Space exploration

Rocketry uses **avionics** and **embedded systems** for communication and navigation in space endeavors.

Electrical, Computer & Energy Engineering at CU Boulder

Behind almost every aspect of innovation in society, electrical and computer engineering is at the heart of every technology in use today.

Students gain critical skills in the classroom while enhancing their learning through research opportunities provided through CU SPUR (Summer Program for Undergraduate Research) and DLA (Discovery Learning Apprenticeship).

1:7
Faculty to student ratio

Top 20
public undergraduate engineering program
U.S. News & World Report 2024

Undergraduate Degrees

- Bachelor of Science in Electrical Engineering
- Bachelor of Science in Electrical & Computer Engineering
- Bachelor's-Accelerated Master's

Minors

- Quantum Engineering
- Electrical Engineering
- Computer Engineering
- Signals & Systems

About our Degree Programs

Award-Winning Faculty
National Academy of Engineering, Air Force, Lockheed Martin, IEEE, NSF

Capstone Projects
Work directly with companies and industry leaders on projects that can make a real impact and prepare you for future job opportunities.

Apply your knowledge

Career and internship opportunities

With a degree in this hands-on, creative discipline, you can pursue careers in a wide variety of fields to make an impact in the world, including:

- Aerospace and satellite technology
- Sustainable energy and transportation
- Biomedical technology
- Robotics and automation
- Quantum engineering and computing
- Wireless technology and communications
- Computer security and networks
- Data science and artificial intelligence

19,400

Number of projected electrical and computer engineering jobs through 2032

U.S. Bureau of Labor Statistics

"I love electrical and computer engineering because it provides me a path to answer many of the mysterious 'why' questions about how things in our world work."

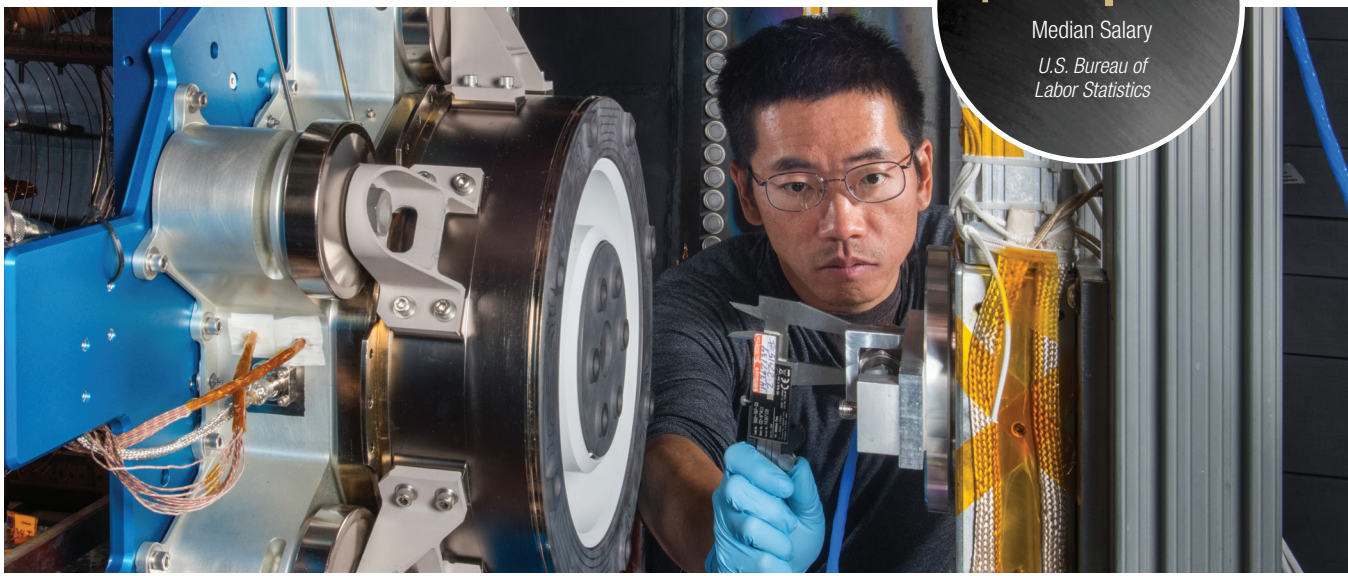
Kofi Asare – Electrical & Computer Engineering '26, Avionics Intern at Stoke Space

Common jobs for electrical and computer engineering CU graduates

- Software Engineer
- Radio Frequency Engineer
- Field Engineer
- Product Engineer

Major companies employing CU alumni

- Apple
- Arrow Electronics
- Lockheed Martin
- LinkedIn
- BAE Systems, formerly Ball Aerospace
- Intel Corporation
- Microsoft
- Medtronic
- Google
- Oracle
- Qualcomm
- Seagate Technology
- NOAA
- NASA
- NIST



$104,610

Median Salary

U.S. Bureau of Labor Statistics

Enhancing your engineering journey

Beyond the classroom, you'll have access to many opportunities to explore your passions:

Pursue your own entrepreneurial project as part of your senior capstone. Intern with nearby national labs, aerospace companies and tech startups or partake in education abroad opportunities around the globe.

You can also participate in student organizations like the Institute of Electrical and Electronics Engineers, Solar Decathlon, CU Robotics, Engineers Without Borders, or join any of the nine organizations from CU Engineering's BOLD Center:

- American Indian Science and Engineering Society
- National Society of Black Engineers
- Out in Science, Technology, Engineering, and Math
- Society of Asian Scientists and Engineers
- Society of Hispanic Professional Engineers
- Society of Women Engineers
- Women in Computing
- Women in Aeronautics and Astronautics
- American Association of Engineers of Indian Origin

Inclusivity at ECEE

The Department of Electrical, Computer and Energy Engineering at CU Boulder values our increasingly diverse student body. We are continually committed to creating an inclusive and equitable environment to empower academic and professional success for all students.

The future is yours to create.

Be here.

A university that is home to five Nobel Prize winners. Engineering faculty that includes two former NASA astronauts and the founder of Engineers Without Borders-USA. The CU Boulder College of Engineering and Applied Science is the highest ranked engineering school in Colorado and one of the top among public engineering programs in the nation. You'll learn from some of the country's best faculty who are making a difference through innovation.

> "Electrical and computer engineering allows us to exercise our curiosity and to understand the technology that we interact with every day."
>
> **Xavion Cowans** – Electrical and Computer Engineering '21, Western Digital

Join our community of inspired students and live and learn in a spectacular environment.

Explore CU Engineering

Visit Us

How to Apply

University of Colorado Boulder
Dept. of Electrical, Computer & Energy Engineering
425 UCB
Boulder, CO 80309

Stay connected!

@CUEngineering

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colorado.edu/ecee

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