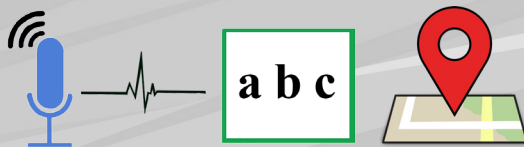


# COMPUTER ENGINEERING



Stony Brook University  
College of Engineering  
and Applied Sciences

Computer engineers design digital and computer systems. Computers are not only laptops and desktops, but also smartphones, tablets, and any electrical device that can compute. Architects design houses, buildings and bridges, and computer engineers design computers. Computer engineers also program computers so that the computers “know” what to do.



## Pre-college preparation

- Physics
- Math

## @ Stony Brook

Our professors work on mobile sensing systems and novel Internet-of-Things devices that may communicate with each other without onboard batteries. Such work will create digital floor plans of buildings and provide turn-by-turn navigation instructions for indoor users with smartphones, just like cars getting them outdoors via GPS. The novel Internet-of-Things devices created by our professors will enable humans and smart objects to communicate and interact with each other, leading to a smart environment.

Computer engineers are the driving force behind innovation and technologies that change the world we live in. They do it by pushing computing power and its capabilities to the edge (parallel processing). Computer engineers design small computer systems with dedicated functions (embedded systems) that are fast and very efficient. They also work in coding and information protection (cryptography). Another important area of their work is human-computer interaction. This includes speech recognition and synthesis, medical and scientific imaging, and recognition of human facial features.

URL: <http://www.stonybrook.edu/commcms/electrical>