

## MOONSHOT BRIEF

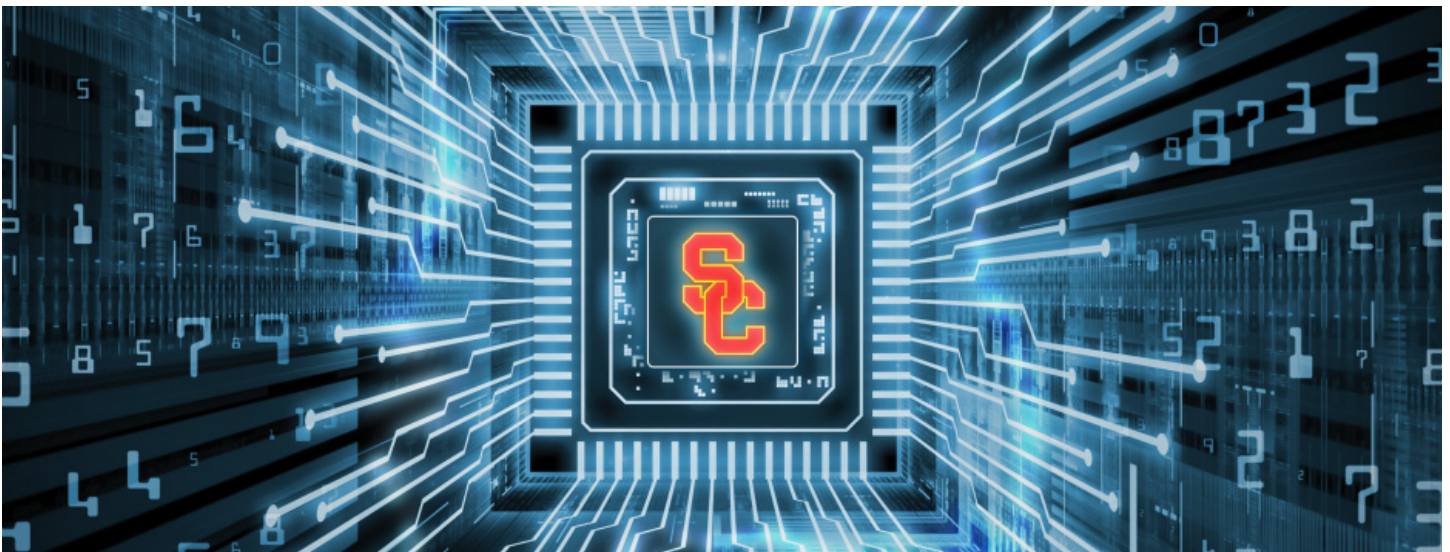
# FRONTIERS OF COMPUTING

President Folt's Frontiers of Computing moonshot introduces a 10-year initiative to accelerate research and innovation of advanced computing and its related applications with a focus on ethical considerations.

“I want every student who comes through our programs, whether they are in science, business, the humanities, or the arts, to have a solid grounding in technology and the ethics of the work that they do. We will integrate digital literacy across disciplines to create responsible leaders for the workforce of the future.”

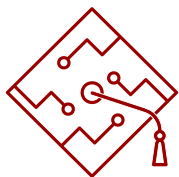
- PRESIDENT CAROL L. FOLT, [FRONTIERS OF COMPUTING ANNOUNCEMENT](#), MAY 2023

## USC LAUNCHES COMPUTING INTO THE NEXT FRONTIER



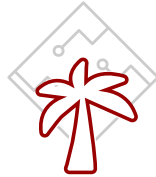
### A NEW SCHOOL

The School of Advanced Computing



### A NEW HUB

Silicon Beach joins LA's start-up ecosystem, ranked #6 in the world



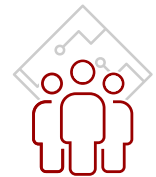
### A NEW INCUBATOR

A new incubator for the tools of the future



### A NEW CENTER

A new center for tech talent in Southern California



## RESOURCES

### PRESIDENTIAL SPEECHES

April 2022: [State of the University - UPC](#)

March 2023: [State of the University - HSC](#)

### COMMUNICATIONS

May 2023: [Launching USC's Frontiers of Computing Initiative - May 2023](#)

### NEWS

[Frontiers of Computing news on USC News](#)

[Artificial Intelligence news on USC News](#)

[Computer Science news on USC News](#)

## Building on a history of innovation

- Every time the winds of change ushered in a new era, [USC has been at the forefront](#):
  - Earliest years are highlighted by groundbreaking contributions to a fledgling automotive industry.
  - By the mid-1950s, USC's emerging strengths in engineering would help the region's aerospace industry become one of the most robust and creative in the world.
  - In the ensuing years, Trojans helped develop the internet, including the Domain Name System and TCP/IP protocols we still rely on today; created the first ever Portable Remote-Access Terminal (what we know today as a laptop); revolutionized 3D special effects for the film industry; and brought emerging technologies — like virtual and augmented reality — to market at scale.



## A unique opportunity

- The time is right, and [USC is ideally positioned to lead](#):
  - According to Fortune Business Insights, the AI market in North America alone is expected to grow from more than \$387 billion in 2022 to nearly \$1.4 trillion in 2029. The workforce is changing too – by 2030, a majority of newly created jobs will require at least a basic understanding of computer or data science.
  - USC already ranks third nationally for federal funding in computer science research (according to the National Science Foundation), and is the #1 U.S. research university in overall computer science degrees conferred (1,500 per year).
  - By collaborating with education and industry partners and by increasing our presence in Silicon Beach (already home to 500+ tech companies and start-ups), USC will establish itself as the center of LA's vibrant innovation ecosystem.

## Frontiers of Computing: officially launched May 2023

- Frontiers of Computing represents a more than [\\$1 billion initiative to consolidate computing research in the fields spanning artificial intelligence, machine learning, and data science](#).
  - Anchoring the initiative is USC's brand-new School of Advanced Computing, housed within USC Viterbi.

- All 22 of USC's schools are involved in this effort to create an institution-wide digital backbone, which encompasses technology, applications, and ethics, preparing students for competencies in the most important elements driving the AI revolution.
- USC will grow its Silicon Beach presence, develop new academic departments, and expand its curriculum emphasizing a host of technological and ethical disciplines.
- Frontiers of Computing represents a natural progression: USC researchers already deploy AI and machine learning to address numerous vexing problems, including:
  - improving [Alzheimer's diagnoses](#);
  - eliminating [anti-LGBTQ+ bias](#) in text prediction;
  - enhancing the earthquake safety of [water systems](#) and power grids; and
  - detecting deepfake videos.
- Faculty and staff have driven some early highlights:
  - Celebrated the [topping off ceremony for the Dr. Allen and Charlotte Ginsburg Human-Centered Computation Hall](#), scheduled to open in 2024.
  - Unveiled [USC's Center for Generative AI and Society](#), which explores the transformative impact of artificial intelligence on culture, education, media, and society.
  - Launched a [new program](#), jointly run by the Viterbi School of Engineering and the Marshall School of Business, which focuses on AI in business.
  - Celebrated the naming of the [USC Thomas Lord Department of Computer Science](#) within USC Viterbi.

*“Our unifying goal with this initiative is to create a digital backbone that embeds computational power, digital literacy, and evolving technologies into all disciplines. By enhancing pedagogy and programs in all 22 diverse schools and institutes at USC, we will prepare leaders to be digitally fluent, technologically adept, and, above all, ethically sound.”*

– PRESIDENT CAROL L. FOLT, [letter to the USC community, June 2023](#)

