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The University of Texas at Austin
Extended Campus

ERA CONFERENCE

CHIPS and Science Act, Texas Institute for Electronics (TIE), Talent Onboarding, AI & More

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About Me

- Start-Ups
- Electronic Components
- Non-Profits
- Academia

CHIPS and Science Act of 2022

- Purpose & Goals
 - Boost U.S. semiconductor manufacturing and R&D
 - Reduce reliance on foreign supply chains
 - Strengthen national security
- Key Provisions
 - \$52.7 billion in funding for semiconductor projects
 - Investment tax credits and R&D support
 - Workforce development through STEM education initiatives



CHIPS Act Influence

- Increased demand for skilled professionals
 - Up to 115,000 manufacturing and construction jobs
 - Talent to design, produce, and manage advanced semiconductor technologies
- Enhanced collaboration opportunities
 - Industry-Academia partnerships encouraged
 - Ex. Aligning curricula with industry needs
 - Consortia and alliances to advance tech and workforce development
 - Ex. Texas Institute for Electronics



Impact on UT Austin

- UT Austin's Role
 - Recognized leader in semiconductor research and education
 - Significant funding through CHIPS Act initiatives
- Key Programs
 - Advanced research and cleanroom facilities
 - Collaborations with major industry players (Samsung, Texas Instruments, etc.)
 - Development of specialized training centers and curriculum alignment

Texas Institute for Electronics

- Consortium led by UT Austin comprising state and local governments, leading semiconductor and defense electronics companies, national laboratories, and academic institutions
- Funding
 - \$552 million from Texas legislature
 - \$840 million DARPA contract award focused on developing the next generation of high-performing semiconductor microsystems for DOD based on 3D Heterogeneous Integration (3DHI) technology
- Consistent with 10-year UT strategy to become highest-impact public research university in the world
- Complements UT strengths in AI, robotics, circuit design and novel electronics systems from Cockrell and ARL



The Austin Advantage

- Strong collaboration between academia, government and industry
- Favorable environment to business
- Large talent pool
- Vibrant start-up and capital ecosystem
- Cutting edge research hub



Major Sectors

- Semiconductors
 - Key Drivers: TIE, Samsung fab expansion
- Artificial Intelligence
 - Key Drivers: UT AI labs, start-up scene
- Robotics
 - Key Drivers: UT robotics labs, robotics ecosystem
- Cybersecurity & Software
 - Key Drivers: Austin's dot.com legacy
- Biotechnology & IoT
 - Key Drivers: UT medical innovation hub



The UT Advantage

- Technology leadership
 - AI, semis, engineering
 - #10 research institution in the world
- Business leadership
 - #7 MBA, #16 BBA, #4 Information Systems, professional sales minor
- Engineering leadership
 - #8 overall, #11 EE, #8 CE
- Computer science leadership
 - #7 overall, #9 in AI

Building a Talent Pipeline

- Partner with professors / academia
 - Collaborate to align curricula to industry needs
 - Offer internships, co-ops, and capstone projects focused on roles to fill
- Build campus visibility
 - Engage through career fairs, guest lectures, and on-campus workshops
 - Utilize both virtual and in-person events
- Build a track record
 - Hire for internships and full-time positions to create word-of-mouth, start early, invest in understanding what students want (flexibility, challenge, growth, AI exposure, etc.)



Artificial Intelligence

Landscape and Application Overview

General Landscape

- General Purpose AI
 - ChatGPT
 - Gemini
 - Claude
 - Perplexity
 - Copilot
 - Grok
 - DeepSeek?
- Capabilities
 - Chat / Search
 - Coding
 - Custom GPTs / Projects
 - Task Scheduling
 - Advanced Reasoning
 - Conversational AI
 - Deep Research
 - Agents



Application-Specific

- Content
 - Jasper
 - Canva
 - Adobe Firefly
 - Eleven Labs
 - HeyGen
 - Midjourney
 - Leonardo
 - Sora
 - Runway LM
 - Suno
- Other
 - Otter
 - Notebook LM
- Sample Sources
 - Scheduled Chat GPT Task (OpenAI) & Other Newsletters
 - Marketing AI Institute ([Marketing AI Institute | Artificial Intelligence for Marketing](#))
 - Matt Wolfe (YouTube)
 - Other podcasts

Personal Examples

- Training
- Decision Support
- Research & Analytics
- Data Manipulation
- Personas
- Brainstorming
- Content Translation
- Ad Design / Testing
- SEO / Content
- Meeting Transcription
- Customer Service
- Language Analysis



Industry Examples

- Research
 - Customer, Industry Vertical, Environmental
 - Tool: Deep research
- Content
 - White papers, e-mail marketing, SEO, social media, knowledge management
 - Tool: General purpose or application-specific
- Customer Service
 - Chatbots, resource navigation
 - Tool: Application-specific, Notebooks



Industry Examples

- Analytics
 - Decision-support, customer analysis (sentiment, behavioral, etc.), forecasting, etc.
 - Tool: General purpose or custom (machine learning)
- Onboarding
 - Training, mentorship, role-playing personas
 - Tool: Trained GPT or Notebook



Extended Campus Custom Training

Our Expertise and Reach:

- Programs in leadership, project management, communication, business analysis, decision-making, AI and technology adoption, and change management.
- Expertise from UT Austin's disciplines: business, communications, engineering, design, and liberal arts.



Experience the **TEX★S** Advantage

Access to UT Austin's renowned faculty and industry experts.

Services include courses, workshops, coaching, and support.

Flexible program design and delivery formats.

Balance of academic knowledge and real-world application.



Explore Sample Programs



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Questions



Explore Sample Programs



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