

The **R**iverside **A**rtificial **I**ntelligence **R**e**S**earch & **E**ducation Institute (**RAISE@UCR**)

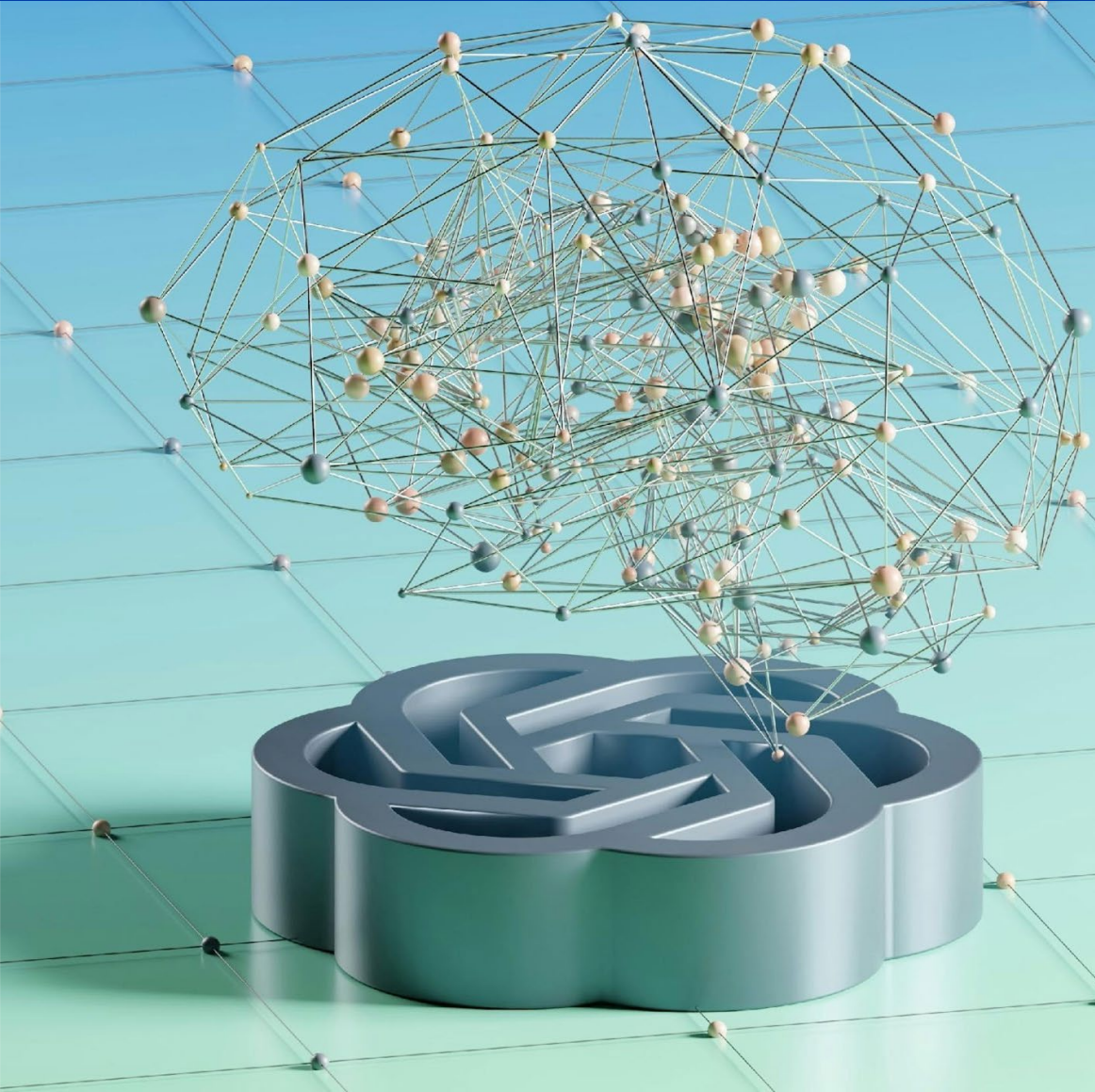
Co-Directors:

Amit Roy Chowdhury

Vassilis Tsotras

Sponsored by UCR's Offices of the Provost
and Research and Economic Development

RAISE@UCR VISION & MISSION



VISION:

The RAISE Institute envisions a future where AI enhances every aspect of human life. Through robust research, collaboration, and education, we strive to advance AI technologies that are ethical, transparent, and beneficial to society.

MISSION:

- To conduct groundbreaking research in artificial intelligence and machine learning.
- To foster interdisciplinary collaboration between researchers and industry leaders.
- To educate and inspire the next generation of AI experts.
- To apply AI solutions to real-world problems in fields such as healthcare, agriculture, environment, and public policy.

RAISE@UCR LEADERSHIP & STRUCTURE



**Amit Roy-
Chowdhury**

Electrical & Computer
Engineering



Vassilis Tsotras

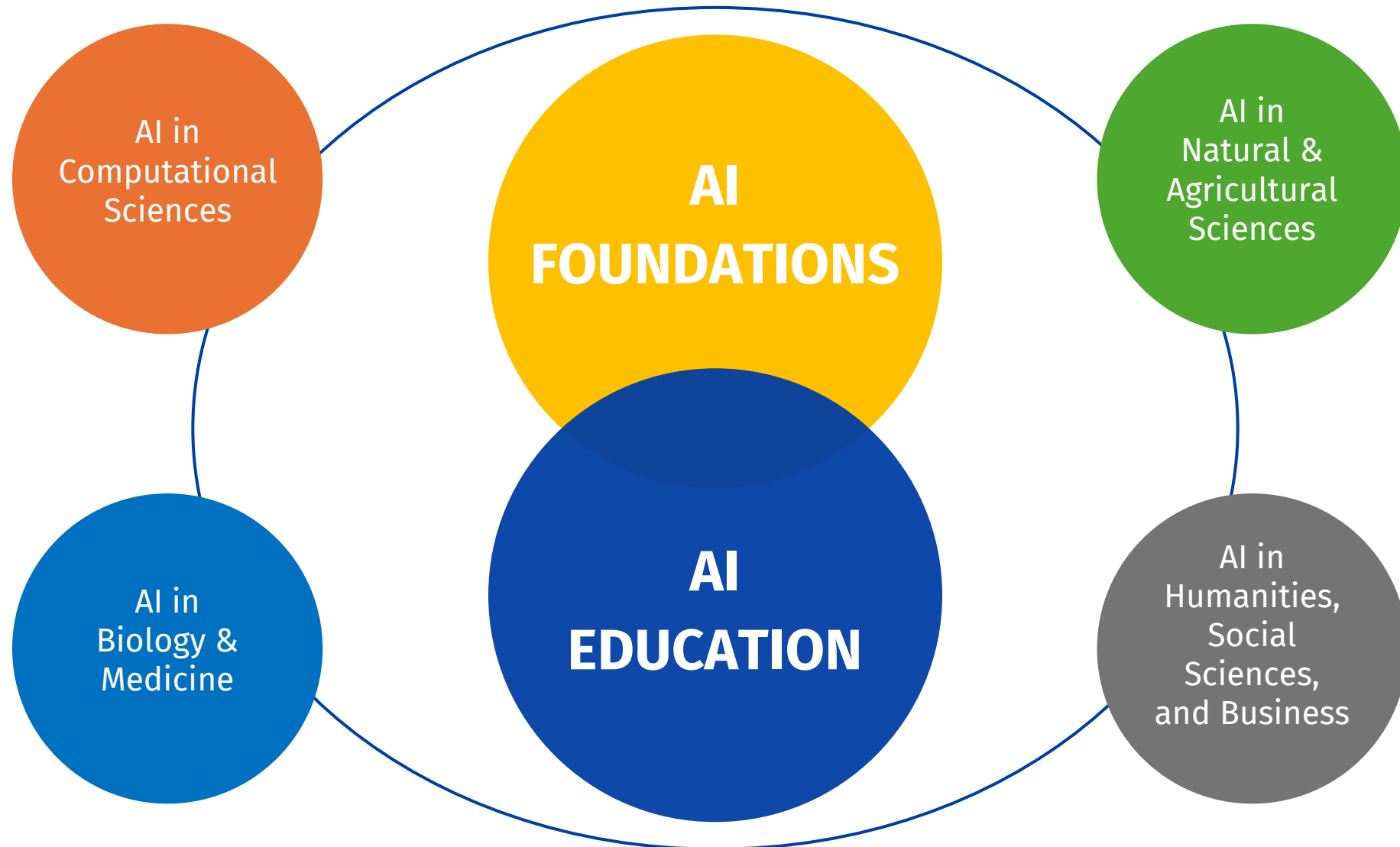
Computer Science
& Engineering

Established through internal UCR call for proposals; started on July 1, 2024.

Three core components: **AI Foundations, AI Applications, AI Education**

Internal steering committee and external advisory board consisting of industry leaders and top academics.

RAISE@UCR COMPONENTS & ASSOCIATED THRUSTS



RAISE@UCR AI FOUNDATIONS



THRUST LEADS:

Machine Learning: *Vagelis Papalexakis*
(Computer Science and Engineering, BCOE)

Robotics and Embodied AI: *Konstantinos Karydis*
(Electrical and Computer Engineering, BCOE)

RAISE@UCR AI FOUNDATIONS

Machine Learning



Thrust Lead: [Vagelis Papalexakis](#)



[Salman Asif](#)



[Bir Bhanu](#)



[Evangelos Christidis](#)



[Yue Dong](#)



[Eamonn Keogh](#)



[Shujie Ma](#)



[Amit Roy-Chowdhury](#)



[Vishwanath Saragadam](#)



[Christian Shelton](#)



[Greg ver Steeg](#)



[Shuheng Zhou](#)



[Yinglun Zhu](#)

Robotics and Embodied AI



Thrust Lead: [Konstantinos Karydis](#)



[Ioannis Karamouzas](#)



[Hyoseung Kim](#)



[Jiachen Li](#)



[Cong Liu](#)

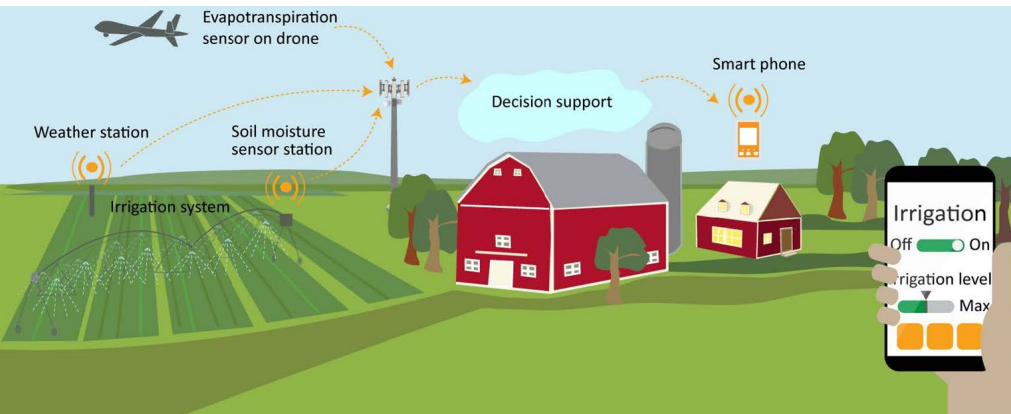
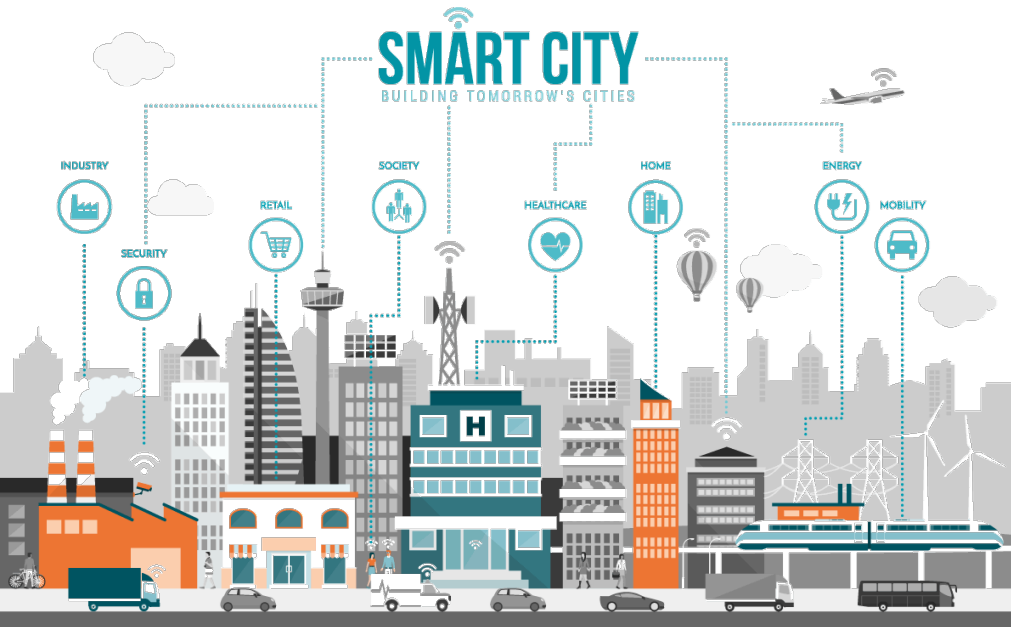


[Fabio Pasqualetti](#)



[Hang Qiu](#)

RAISE@UCR AI APPLICATIONS



THRUST LEADS:

AI in Computational Sciences

Systems and Security: *Srikanth Krishnamurthy* (Computer Science and Engineering, BCOE)

Scientific Computing: *Mark Alber* (Mathematics, CNAS)

AI in Natural and Agricultural Sciences

Agricultural, Environmental and Geospatial Sciences: *Hoori Ajami* (Environmental Sciences, CNAS)

Physical Sciences: *Chia-en Chang* (Chemistry, CNAS)

AI in Biology and Medicine

Bioinformatics and Biomedical Sciences: *Monica Carson* (Biomedical Sciences, SOM)

Public Health: *Mario Sims* (Social Medicine, Population and Public Health, SOM)

AI in Humanities, Social Sciences, and Business

Social Sciences: *Kevin Esterling* (Political Science, CHASS)

Economics and Business: *Gloria Gonzalez-Rivera* (Economics, CHASS)

RAISE@UCR AI APPLICATIONS

AI in Computational Sciences:

Systems and Security



Thrust Lead: [Srikanth Krishnamurthy](#)



[Nael Abu-Ghazaleh](#)



[Emiliano De Cristofaro](#)



[Ahmed Eldawy](#)



[Basak Guler](#)



[Hamed Mohsenian-Rad](#)



[Zhiyun Qian](#)



[Chengyu Song](#)



[Vassilis Tsotras](#)



[Heng Yin](#)



[Nanpeng Yu](#)

Scientific Computing



Thrust Lead: [Mark Alber](#)



[Weitao Chen](#)



[James Flegal](#)



[Alfonso Landeros](#)



[Maziar Raissi](#)



[Shaolei Ren](#)



[Craig Schroeder](#)



[Tamar Shinar](#)

AI in Natural and Agricultural Sciences:

Agriculture, Environmental, and Geospatial Sciences



Thrust Lead: [Hoori Ajami](#)



[Boris Baer](#)



[Abhijit Ghosh](#)



[Tony Grubestic](#)



[King-Fai Li](#)



[Amr Magdy](#)



[Elia Scudiero](#)



[Luat Vuong](#)



[Ran Wei](#)

Physical Sciences



Thrust Lead: [Chia-en Chang](#)



[Gregory Beran](#)



[Simeon Bird](#)



[Bahram Mobasher](#)



[Yiwei Wang](#)



[Bryan Wong](#)

RAISE@UCR AI APPLICATIONS

AI in Biology and Medicine:

Bioinformatics and Biomedical Sciences



Thrust Lead: [Monica Carson](#)



[Wenxiu Ma](#)



[Wei-Chun Chou](#)



[Mingxun Wang](#)



[Adam Godzik](#)



[Sika Zheng](#)



[Elizabeth Jacobs](#)



[Tao Jiang](#)



[Wei Vivian Li](#)



[Stefano Lonardi](#)

Public Health



Thrust Lead: [Mario Sims](#)



[Xinping Cui](#)



[Zhe Fei](#)



[Esra Kurum](#)



[Daniel Novak](#)



[Mark Wolfson](#)

AI in Humanities, Social Sciences, and Business:

Social Sciences



Thrust Lead: [Kevin Esterling](#)



[Ian Ballard](#)



[Richard Carpiano](#)



[Michalis Faloutsos](#)



[Diogo Ferrari](#)



[Nicholas Napolio](#)



[Eric Schwitzgebel](#)

Economics and Business



Thrust Lead: [Gloria Gonzalez-Rivera](#)



[Hai Che](#)



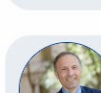
[Ozkan Eren](#)



[Bree Lang](#)



[Tae-Hwy Lee](#)



[Danko Turcic](#)

RAISE@UCR AI EDUCATION



THRUST LEAD:

Education and Outreach: *Mariam Salloum*
(Computer Science and Engineering, BCOE)



Thrust Lead: [Mariam Salloum](#)



[Jia Chen](#)



[Richard Edwards](#)



[Analisa Flores](#)



[Paea LePendu](#)



[Soojin Park](#)



[Zhiwu Xie](#)

RAISE@UCR IMPACT

- RAISE@UCR will enhance the university's AI research by fostering interdisciplinary collaborations among its existing network of scholars.
- By increasing coordination and partnerships across departments, RAISE@UCR will help UCR become more competitive in securing large, multi-sector grants and strengthen faculty and student research efforts.
- It aims to build a sustainable infrastructure that supports faculty in generating innovative AI proposals, positioning UCR as a leader in AI research both nationally and globally.
- RAISE@UCR will provide students with cutting-edge AI education, preparing them for high-profile careers, and bolstering UCR's role in promoting social mobility.
- The institute's focus aligns with UCR's mission, offering expanded educational and career opportunities across Southern California.

RAISE@UCR ACTIVITIES

Workshops

- Organized the UCOP Lab Fees Workshop on **October 16, 2024**
 - Workshop Title: “**Advancing AI at Scale for National Security and Scientific Discovery**”
 - Participants will include faculty/researchers from LANL, LLNL, UC Irvine, UCLA, UCSB, UCSD, UCSF, UC Berkeley, UC Davis, UC Merced, and UCR
- Co-sponsored (with Dena Plemmons and UCR Grad Division) a webinar series on “**Charting the Landscape of Ethical AI**” (first talk was on **Oct.18, 2024**)
- Sponsored a two-day workshop for UCR, UCI, and community college students on “**Big Data Management**” (**Oct 24-25, 2024**)
- Co-organize (with Mike Kennedy and ITS) a workshop for UCR faculty and staff: “**All You Needed to Know about AI**” in **2025** (more info to come).

RAISE@UCR ACTIVITIES

Seminars

- Bi-weekly **Seminar Series on AI Research** (MRB Seminar room; 1st seminar **Oct. 11, 2024**)
Invite local and outside speakers with focus on building collaborations

Working Lunch Meetings

- Organized in **specific themes/areas**
August 2024 with School of Medicine:
AHRQ: “Examining the Impact of Artificial Intelligence (AI) on Healthcare Safety (R18)”
NSF: “Smart Health and Biomedical Research in the Era of Artificial Intelligence and Advanced Data Science”

October 31 and November 4: DOE Frontiers in Artificial Intelligence for Science, Security and Technology (FASST) RFI

Industry and Local Government Outreach

- Meetings with companies (NVIDIA, Google, Cisco, etc.) and local government

EDUCATIONAL ACTIVITIES

UCR is becoming a **leader** for Data Science/AI Education:

- Data Science Major (CSE, Statistics) ←
 - Data Science Minor (CSE, Statistics) ←
 - MS in Computational Data Science (CSE, ECE) ←
 - Robotics Major (CSE, ECE, ME)
 - MS in Robotics (CSE, ECE, ME)
 - BS+MS programs (*under construction*)
 - MS in AI and MS in Applications of AI (*under discussion*)
- Established Pathways with
six Community Colleges,
CSUSB, CalPoly Pomona

QUESTIONS?

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Vassilis - vtsostras@ucr.edu

RAISE.UCR.EDU