Chen-Yeou Yu

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ACADEMIC APPOINTMENTS

Assistant Professor --- Applied Artificial Intelligence, Cybersecurity, and Intelligent/Agentic Systems
Department of Computer and Data Sciences
Truman State University, 2022 – Present

Adjunct Instructor, Computer Information Systems
Des Moines Area Community College (DMACC), 2021–2022

EDUCATION

Iowa State University — Ames, IA
Ph.D. Computer Science — Completion Date: 08/2022

New York University — New York, NY
M.S. Computer Science — Completion Date: 01/2009

National Taipei University — Taipei, Taiwan
B.S. Business Administration — Completion Date: 06/2001

RESEARCH INTERESTS

- Applied, Trustworthy, and Resource-Aware Artificial Intelligence
- AI Agents, Test-Time Coordination, and Intelligent Decision Systems
- AI-Enabled Cybersecurity, Fraud Detection, and Digital Trust
- Generative AI and Large/Small Language Model Systems
- Secure, Edge/IoT, and Distributed Intelligent Systems
- Multimodal Learning and Adaptive Inference

Peer-Reviewed Publications

Conferences:

2026

- C.-Y. Yu, W. Zhang. "Energy-Aware Response Control for Small Language Models in Low-Power IoT Environments." Accepted for publication in the Proceedings of the **IEEE 4th International Conference on Artificial Intelligence, Blockchain, and Internet of Things** (**AIBThings 2026**). **[Small Language Models, Efficient AI, Edge AI, Resource-Aware Inference]**

- C.-Y. Yu, W. Zhang. "When to Nudge? Budget-Constrained Test-Time Coordination for Reliable LLM Decision Making." Accepted for publication in the Proceedings of the **25th International Conference on Machine Learning and Applications** (**ICMLA 2026**). **[AI Agents, Test-Time Coordination, Reliable AI, Budget-Aware Reasoning]**

- C.-Y. Yu, W. Zhang. "TruStoreGuard: A Cascaded Feature-Based and LLM Reasoning Framework for Fraudulent Online Store Detection." Accepted for publication in the Proceedings of the **25th International Conference on Machine Learning and Applications** (**ICMLA 2026**). **[LLM Reasoning, AI-Enabled Cybersecurity, Fraud Detection, Digital Trust]**

2025

- C.-Y. Yu, J. He, W. Zhang. "TruScamBuster: Federated Latent-Thought Models for Zero-Shot Scam SMS Detection on Mobile Devices with Lightweight LLMs." Proceedings of ICARTI 2025 (**ACM ICPS**). **[Federated AI, Lightweight LLMs, Cybersecurity, Privacy]**

- J. He, C.-Y. Yu, W. Zhang. “Explainable and Efficient Hateful Meme Detection using Multimodal Vision-Language Fusion.” Proceedings of ICARTI 2025 (**ACM ICPS**). **[Multimodal Learning, Vision-Language Models, Explainable AI, Trustworthy AI]**

- C.-Y. Yu, J. He, O. Lewis, W. Zhang. “TruRescue: A Federated Learning-Based Drone-Driven Road Emergency Assistant with Generative AI.” Proceedings of the 2025 World Congress in Computer Science, Computer Engineering, & Applied Computing (CSCE 2025). **[Federated, Edge AI]**

- C.-Y. Yu, J. He, K. Amaeshi, W. Zhang. “TruCrisisAware: Integrating Naturalistic Decision Making into AI for Enhanced Disaster Response.” Proceedings of the 2025 World Congress in Computer Science, Computer Engineering, & Applied Computing (CSCE 2025). **[Human-Centered AI, Decision Intelligence, Trustworthy AI, AI for Public Good]**

2024
- C.-Y. Yu, P. Su, W. Zhang. “TruDevOps: Towards Pairing Agile Software Development Curriculum with AI-Agile DevOps.” Proceedings of the 2024 International Conference on Computational Science and Computational Intelligence (CSCI 2024). **[AI-based Software Engineering, DevOps, Experiential Learning, Applied Computing]**

2022
- C.-Y. Yu, W. Zhang, C.K. Chang. “Edge-based Situ-aware Reinforcement Learning for Traffic Congestion Mitigation.” 8th IEEE International Smart Cities Conference 2022 (**IEEE ISC2 2022**). **[Edge AI, Reinforcement Learning, Cyber-Physical Systems, Smart Cities]**

2020
- C.-Y. Yu, C.K. Chang, W. Zhang. “An Edge Computing Based Situation Enabled Crowdsourcing Blacklisting System for Efficient Identification of Scammer Phone Numbers.” Proceedings of the 2020 International Conference on Computational Science and Computational Intelligence (CSCI 2020). **[Edge Computing, Distributed Systems, Security, Crowdsourcing]**

- C.-Y. Yu, C.K. Chang, W. Zhang. “A Situation-Enabled Framework for Energy-Efficient Workload Offloading in 5G Vehicular Edge Computing.” **IEEE SERVICES 2020**. **[Edge Computing, Distributed Systems, Cyber-Physical Systems, Energy-Efficient Computing]**

2018
- C.-Y. Yu, R. O. Oyeleke, C. K. Chang. “Situation Based Energy Management Framework on Mobile Devices.” **IEEE Computer Software and Applications Conference** (COMPSAC 2018). **[Edge Computing, Mobile Systems, Energy-Efficient Computing]**

RESEARCH FUNDING

Faculty Scholarship and Research Grant (Competitive Internal Faculty Research Grant)
Truman State University, 2026–2027
- **Principal Investigator**. Supports development and evaluation of a lightweight conversational AI system for voluntary student wellness check-ins and campus-resource navigation.

Barbara Dixon Faculty Research Scholarship (Competitive Internal Faculty Research Award)
Truman State University, 2026–2027
- **Principal Investigator**. Supports research on intelligent risk escalation and intervention in multi-turn scam conversations using applied AI and language models.

Grants-in-Aid of Scholarship and Research (Competitive Internal Faculty Research Award)
Truman State University, Summer 2025
- **Principal Investigator.** Supported federated and generative AI research for UAV-assisted emergency response; resulted in a peer-reviewed publication with undergraduate co-authorship.

STUDENT RESEARCH MENTORING & CAPSTONE SUPERVISION

Student Research Mentorship

- Mentored undergraduate students and graduate-level projects that led to peer-reviewed publications (CSCI 2024, ACM ICPS 2025; CSCE 2025), demonstrating the ability to build a sustainable student research pipeline.

- Supervised multiple undergraduate and graduate **capstone projects** in systems, security, AI, and data analytics, guiding students from project conception to deployment and presentation.

- Mentoring approach emphasizes integrating course-based learning with research-informed system development, creating pathways from classroom projects to applied research outcomes.

- Supervised graduate-level projects and thesis-oriented research in applied AI, cybersecurity, data systems, and software development, with an emphasis on scalable student-centered research suitable for undergraduate and master's-level collaboration.

TEACHING EXPERIENCE

Undergraduate and graduate teaching across artificial intelligence, cybersecurity, software and systems, web development, databases and data-intensive computing, and programming. Courses emphasize project-based learning, hands-on system implementation, technical communication, and connections among coursework, research, and professional practice.

SELECTED COURSES TAUGHT

Artificial Intelligence and Data-Driven Systems

- CS480 – Artificial Intelligence
  (search, supervised & unsupervised learning, reinforcement learning)

- CS484 / PDAT 629G (**Graduate**) – Topics in Generative AI (***Course Designer*** & ***Instructor***)
  (LLM prompting, data scraping, transformer architecture, LoRA fine-tuning, generation strategies, speculative decoding, LLM evaluation)

Cybersecurity and Privacy

- CS455 – Computer Security
  (penetration testing concepts, mobile security & privacy, social engineering, cryptography)

Software, Web and Systems

- CS315 – Internet Programming (Scheduled for Fall 2026)

- CS260 – Object-Oriented Analysis and Design
  (UML, design patterns, Android GUI mechanisms, Java reflection, threading, socket programming)

Database Systems and Data Platforms

- CS430 – Database Systems
  (E-R modeling, normalization, SQL (MySQL), NoSQL (MongoDB, Neo4j))

- PDAT 611G – Big Data Management (**Graduate**)
  (Hadoop, Spark, stream processing)

Programming Foundations

- CS170 – Introduction to Programming (Python)

- CS180 / CS181 – Object-Oriented Programming (C++, Java)

CS/CIS/IT Foundations (DMACC)

- CSC116 – Information Computing
  (Microsoft Technology: Microsoft Word, Excel, Access, RDBMS, VBA)

INDUSTRY AND RESEARCH EXPERIENCE (SELECTED)

Software Engineer, Intel Corporation, Taipei, Taiwan (2013–2014)

- Developed and integrated Android/Chromebook sensor and I²C drivers on x86 platforms.
- Delivered board-level bring-up, system integration, and performance profiling support for x86-based platforms.

Research Intern, Pacific Northwest National Laboratory (PNNL), WA, USA (2018)

- Built an offline Android-based system for field-ready information access
- Designed UI/UX, secure local storage, and deployment-ready features

Research Assistant, Academia Sinica, Taipei, Taiwan (2012–2013)

- Conducted research on mobile sensing, GPS power optimization, and trajectory analysis.
- Developed Android-based LBS cloud systems using Linux/Apache/PHP/MySQL architectures.

ACADEMIC LEADERSHIP, PROGRAM DEVELOPMENT, AND SERVICE

Faculty Senate Representative, Computer Science

Truman State University, January 2025–May 2025

- Represented Computer Science in university-level faculty governance, policy discussion, and institutional voting.
- Participated in early cross-college discussion of a proposed interdisciplinary M.S. in Information Systems involving Computer Science and the School of Business.

Academic Service (Reviewer for international conferences and journals)

- Reviewer, IEEE TDSC.
- Reviewer, IEEE INFOCOM 2026.
- Reviewer, IEEE Transactions on Cloud Computing, 2020.
- Reviewer, IEEE SERVICES 2018.
- Reviewer, IEEE COMPSAC 2016.

Conference Service

- Conference Service Staff, IEEE SERVICES 2023 (Registration & Reception)

Program Service

- Member, Data Science Graduate Program Committee, Truman State University
- Designed and launched a graduate-level Topics in Generative AI course integrating foundational concepts, local model deployment, fine-tuning, evaluation, and responsible use.
- Developing an advanced second-course curriculum in Generative AI that connects foundational machine-learning concepts with emerging topics such as context engineering, FlashAttention, KV-cache optimization, LLM application and evaluation harness engineering, self-supervised learning, and modern model-serving systems.

Departmental Service

- Search Committee Member for Computer Science (2023) and Accounting (2024) Faculty
- Advisor for Prospective High School Students
- Scholarship Interview Committee Member, Department of Computer and Data Sciences, Truman State University (2026)

TECHNICAL SKILLS

- **AI/ML and Agentic Systems**: machine learning, generative AI, lightweight LLM deployment, LoRA fine-tuning, model evaluation, test-time coordination
- **Cybersecurity and Privacy**: secure system design, mobile security/privacy, threat analysis, social engineering risk, fraud/scam detection
- **Systems and Distributed Computing**: Linux/Unix, concurrency, multithreading, sockets, edge/cloud computing, system profiling
- **Programming and Software Development**: Python, Java, C/C++, Android, client-server systems, web/database integration
- **Data Platforms**: SQL, NoSQL, Hadoop, Spark, distributed data systems