Safia A. Malallah

Learning Scientist / >

☑ safia@ksu.edu ☐ +1 785-532-7365

EDUCATION			
EDUCATION			

Doctor of Philosophy in Computer Science Kansas State University, Manhattan, KS, USA	Aug 2017-May 2022
Master of Education in Curriculum and Instruction Elementary & Middle Level Kansas State University, Manhattan, KS, USA	Jun 2024-Dec 2025
Master of Science in Computer Science Montana State University, Bozeman, MT, USA	Aug 2015-July 2017
Graduate Certificate in Educational Technology Kansas State University, Manhattan, KS, USA	Jun 2024-Jun 2025
Graduate Certificate in Technology and Early Childh Tufts University, Medford, Massachusetts, USA	ood Aug 2020-Aug 2021
Certificate in E-business Application Development The Public Institution for Social Security, Mirqab, Ku	Dec 2008-Dec 2009 wait IBM, GIZA, Egypt
Bachelor of Science in Information Science	Aug 2003-Jan 2008

Kuwait University, Kuwait City - Kuwait

• Minor: Nutrition

Gap between 2003 and 2004: I had to interrupt my class attendance for two terms because of an accident I experienced during my pregnancy. This accident resulted in a miscarriage and necessitated my hospitalization for several months

ACADEMIC EXPERIENCE —

Teaching Assistant Professor

Aug 2023 - Current

Computer Science Department, Kansas State University, Manhattan, KS, USA Teach undergraduate courses, including CC110, CC111, CC120, CC315, CIS115, CIS116, and co-teach CIS590 and CIS890.

Project Coordinator

Aug 2022 - Current

Kansas Data Science Consortium, Kansas State University, Manhattan, KS, USA My responsibilities include fostering collaboration with various institutions representing Kansas State University, to drive innovative data science initiatives funded by the National Science Foundation. I contribute to the delivery of immersive data science courses that connect academic theory with industry practices. In addition, aid students in publishing their research and actively assists in organizing Data Science Conferences

PostDoc - Researcher

Aug 2022-Feb 2023

Knowledge Discovery in Databases Lab, Kansas State University, Manhattan, KS, USA Developing and facilitating an annotation training course with certification for new lab annotators, creating comprehensive bee image datasets, and conducting research on image quality criteria to build a classification model for evaluating bee image quality

STEM Teacher Sep 2020-Mar 2023

UFM Community Learning Center, Manhattan, KS, USA

Design and lead hands-on STEM and computer science workshops to promote computational thinking. Workshops include Coding into the Virtual World, Minecraft Adventure, Coding Around with Makey Makey, Coding and Folding, Tinkering and Coding Around, Starbase and Coding and Robotics.

Graduate Teaching Assistant - Kansas

Jan 2019-May 2020

Computer Science Department, Kansas State University, Manhattan, KS, USA Conducting office hours, grading assignments and exams, and supervising laboratory sessions for both undergraduate and graduate courses, including: CIS751/551, CIS501, CIS526, and CIS744.

Graduate Teaching Assistant - Montana

Aug 2016-May 2017

Computer Science Department, Montana State University, Bozeman, MT, USA Supervising laboratory sessions, conducting office hours, and grading projects for the undergraduate course CS145.

INDUSTRY EXPERIENCE —

Senior Software Developer

Mar 2023 - Jul 2023

Advanced Engineering Design Apps LLC, Manhattan, KS, USA

Responsible for the design, development, and implementation of software programs and applications for mobile phones, tablets, and computer platforms, specifically tailored to the engineering marketplace. One such application developed is the Concrete Mix Design Web Calculator.

Web Developer

Jun 2015 - Aug 2020

Dar Almohandes, Kuwait City, Kuwait

Developing functional, user-friendly systems and ensuring seamless operation for both the client and customers. Additionally, managing the social media account. Application descriptions: DAR Customer-Side and DAR Employee-Side.

System Analyst and Web Developer

Jan 2010-May 2015

Kuwait Fund for Arab Economic Development, Kuwait City, Kuwait

Managing and resolving Help Desk tickets, conducting research to enhance existing software systems, and leading the development and upgrades of various applications, including the Kuwait Fund's systems. Developed applications include: Kfund Yearly Party, Fund Branch, Job Application, Engineers Report Tracking System, Kfund iPhone App, Public Relations Website, Ramadan Contest System, Consulting Firms Registering System, Windows Desktop application, Survey System and Training Centre Application.

E-business Application Development Program - Trainee

Apr 2009-Dec 2009

Public Institution for Social Security, Kuwait City, Kuwait

The program required the development of business projects that aligned with the objectives of each taught module. Key projects included: Central Bank Loan Governor and Employee Attendance Management System.

Data Analyst - Intern

Jun 2008-Aug 2008

Student Information Center, Kuwait University, Shuwaik, Kuwait

Producing comprehensive statistical educational reports covering key areas such as class performance, departmental metrics, faculty activities, and student achievement

Graphic Designer

Jun 2006-Dec 2009

Aljusoor Company, Kuwait City, Kuwait

Created graphic designs for both short- and long-term projects, including advertisements, brochures, handouts, flyers, and online graphics

Freelancer Graphic Designer

2002 - Current

Designed visual content for a wide range of clients including startups, NGOs, and educational institutions.

GRANTS ---

• Project Title: CS4KS: Maintaining the Cyber Pipeline

Role: Co-Principal Investigator **Period:** 07/01/2024 - 06/30/2025 **Host Institution:** Kansas State University

Awarding Agency: Kansas Department of Education

Amount: \$685,466

• Project Title: CS4KS: Continuing to Expand the K-State Cyber Pipeline

Role: Co-Principal Investigator **Period:** 10/01/2023 – 06/30/2024 Host Institution: Kansas State University

Awarding Agency: Kansas Department of Education

Amount: \$748,000

PUBLICATION —

PEER-REVIEWED CONFERENCE PROCEEDINGS

- Aponti, c. Malallah, S., & Shamir, L. (2025) A Review of K-12 Data Science Education 1. in the United States: Trends, Tools, and Gaps. In 2025 ASEE Annual Conference & Exposition.
- 2. Malallah, S., Osiobe, E. U., P., Shamir, L., Bean, N, H., Feldhausen R., & Weese, J. L. (2025) Developing a Computational Thinking Virtual Worlds Framework for Early Childhood. In 2025 ASEE Annual Conference & Exposition.
- 3. Malallah, S., Osiobe, E. U., P., Shamir, L., Bean, N, H., Feldhausen R., & Weese, J. L. (2025) Designing a Virtual World Experience to Foster Computational Thinking in Young Learners: An Hour of Code Initiative. In 2025 ASEE Annual Conference & Exposition.
- (Abstract Submitted) Stewart R., Malallah, S., Shamir, L. (2025) Enhancing Aca-4. demic Integrity in the Digital Age: An Image-Based Solution to Combat AI-Assisted Cheating. In 2025 ASEE Annual Conference & Exposition.
- 5. (Abstract Submitted) Marafie, Z. Malallah, S., Osiobe, E. U. P., Shamir, L. (2025) Exploring Student Confidence in Data Science: A Kuwaiti Case Study on Self-Efficacy. In 2025 ASEE Annual Conference & Exposition.

- 6. Malallah, S., Osiobe, E. U., Marafie, Z., Henriquez-Coronel, P., Shamir, L., Carlson, E. L., & Weese, J. L. (2024) Developing an Instrument for Assessing Self-Efficacy Confidence in Data Science. In 2024 ASEE Annual Conference & Exposition.
- 7. Malallah, S., Shamir, L., & Osiobe, E. U. (2023). Gender stereotype in STEM fields: A case study of Kuwait. In *Missouri, Iowa, Nebraska, and Kansas, Women in Computing Conference*. DOI: 10.13140/RG.2.2.13752.32003.
- 8. Malallah, S., Shamir, L., Hsu, W. H., Weese, J. L., & Alfailakawi, S. (2023). Computational thinking pedagogical framework for early childhood education. In *2023 ASEE Annual Conference & Exposition*.
- 9. Malallah, S., Weese, J. L., & Alsalmi, K. N. (2023) The "besTech" technology practice framework for early childhood education. In *2023 ASEE Annual Conference & Exposition*.
- 10. Malallah, S. A., Shamir, L., Hsu, W. H., Weese, J. L., & Alfailakawi, S. (2023). Data science (dataying) for early childhood. In *2023 ASEE Annual Conference & Exposition*.
- 11. Malallah, S., Alfailakawi, S., Alkhurafi, T. Y., & Weese, J. L. (2021). Reversing gender stereotypes in STEM education in a gender-segregated region. In *2021 ASEE Virtual Annual Conference Content Access*.
- 12. Malallah, S., Alsalmi, K. N., & Weese, J. L. (2021). Measuring awareness of computational thinking in Kuwaiti educational institutions. In *2021 ASEE Virtual Annual Conference Content Access*.
- 13. Malallah, S., Alfailakawi, S., & Weese, J. L. (2020). A replicate study: Adoption of a STEM outreach program in Kuwait. In *2020 ASEE Virtual Annual Conference Content Access*.
- 14. Malallah, S., & Weese, J. L. (2020). The effects of mind maps on computational thinking. In 2020 ASEE Virtual Annual Conference Content Access.

JOURNAL PAPERS

- 1. Osiobe, E. U., & Malallah, S. A. (2025). Business and Labor Growth Opportunities: A Case Study of Rural America. Accreditation Council of Business Schools & Programs Midwestern Regional Council Meeting.
- 2. Osiobe, E. U., Malallah, S., & Hammood, W. A. (2025). A Literature Review of Human Capital and Educational Policies in Chile's Educational System. International Business Management, 8(5), 15–21.
- 3. Osiobe, E. U., Malallah, S., Hammood, W. A., & Rauf, R. I. (2025). A Literature Review of Human Capital and Educational Policies in the Brazilian's Educational System. The Journal of Business, 8(4), 79–86.
- 4. Osiobe, E. U., & Malallah, S. (2025). *Big Data and Waste Management Economics*. In WSSA 2025 Conference.
- 5. Osiobe, E. U., Malallah, S., Al Noor, S., & Aliesawi, S. A. (2025). Commonalities or Variations among Dimensions: An Analysis of Regions based on Hofstede's Six Cultural Pillars. Journal of Social Science, 8(1), 284–299. DOI: 10.31014/aior.1991.08.01.563.

- Osiobe, E. U., Malallah, S., Al Noor, S., & Aliesawi, S. A. (2025). Variations or Commonalities among Countries? A Data-Driven Approach to Diplomacy. Indian Journal of Law and Human Behavior, 4(1), 87–100.
- 7. Osiobe, E. U., Malallah, S., Al Noor, S., & Hammood, W. A. (2025). Tennessee and Kansas Industrial Diversity Analysis: A Case for Economic Development. SSRN Electronic Journal. DOI: 10.2139/ssrn.5263213.
- 8. Osiobe, E. U., Malallah, S., Al Noor, S., & Aliesawi, S. A. (2025). Commonalities or Variations among Dimensions: An Analysis of Regions based on Hofstede's Six Cultural Pillars. SSRN Electronic Journal. DOI: 10.2139/ssrn.5191098.
- 9. Osiobe, E. U., Sewer, A. T., Hammood, W. A., Malallah, S. A., Sofyan, D., & Abdullah, K. H. (2024). Exportation and Big Data: An Analysis of Kansas Trade Trends 1995–2025. Journal of Economics, Management and Trade, 30(7), 47–55.
- Hammood, W. A., Hammood, O. A., Aliesawi, S. A., Osiobe, E. U., Hasan, R. A., Malallah, S., & Abbas, D. H. (2024). Data Analysis of An Exploring the Information Systems Success Factors for Early Warning Systems Adoption. Babylonian Journal of Machine Learning, 102–111.
- 11. Malallah, S., Osiobe, E. U., & Shamir, L. (2024). Data Science Self-Efficacy Assessment Tools: A Foundational Guide to Evaluating Progress. The Asian Institute of Research, June 30, 2024.
- 12. Osiobe, E. U., Malallah, S., & Osiobe, N. E. (2024). Enhancing Data Visualization Accessibility: A Case for Equity and Inclusion. Engineering and Technology Quarterly Reviews, 7(2).
- 13. Osiobe, E. U., Moore, J. T., Malallah, S. A., Abdullah, K. H., & Sofyan, D. (2024). A Regional Development Plan: A Case Study of Douglas County, Kansas, USA. Economics and Business Quarterly Reviews, 7(2).
- 14. Osiobe, E. U., Malallah, S., & Al Noor, S. (2024). Cultural dimensions: An Analysis of Regions Based on Hofstede's Six Cultural Pillars. In World Social Science Association (WSSA) 2024. DOI: 10.13140/RG.2.2.29620.67202.
- 15. Malallah, S., & Osiobe, E. U. (2024). Commonalities among Countries: A Data-Driven Approach to Diplomacy. In World Social Science Association (WSSA) 2024. DOI: 10.13140/RG.2.2.12843.45603.

POSTERS

- Malallah, S., Shamir, L. & Osiobe, E. U. ARISE Virtual World for Data Science education for Young Learners. In 2025 ARISE Annual Symposium, Garden City, Kansas.
- 2. Malallah, S., & Shamir, L. A data science course embracing real-world ARISE projects. In 2024 ARISE Annual Symposium, Olathe, Kansas. DOI: 10.13140/RG.2.2.12945.03688
- 3. Malallah, S., & Shamir, L. Course-based Real-World Capstone Data Science Experience. In 2023 ARISE Annual Symposium, Kansas.

DEVELOPED TOOLS/RESOURCES

- 1. Kids Song: Data Science Song for k-5 🏶
- 2. **Story-Book:** The Adventures of Pixel and Data Exploring the World of Data Science

3. Virtual World: The Computational Thinking Island - Roblox 🏶

WORKSHOPS, COLLOQUIA, AND SEMINARS

- 1. CS for Elementary Learners. Malallah, S. (May 2025) Presented a workshop at Computer Science Education for Kansas,. Manhattan, KS •
- 2. Building an Augmented Reality Piano. Malallah, S. (May 2025) Led a hands-on session at *Computer Science Education for Kansas*, Manhattan, KS •
- 3. Exploring Computer Science Through Unplugged Activities. Malallah, S. (Summer 2025) Facilitated an interactive session at *Computer Science Education for Kansas*,. Manhattan, KS
- 4. ChatGPT in CS Education. Malallah, S. (Summer 2025) Organize a panel at *Computer Science Education for Kansas*,. Manhattan, KS 🏶
- 5. K-5 Coding Contest. Malallah, S. (Fall 2025). Host at Kansas State University, Manhattan, KS, USA •
- 6. Sushi Workshop. A. Amama, S. Malallah, H. McGinty (2024). Present at the Social Event of Diversity in Computing and Women in Engineering, 2024 Nov 1st. Carl R. Ice College of Engineering Kansas State University, Manhattan, KS •
- 7. Keys to a Great Job Interview. S. Malallah, H. McGinty (2024). Present at the 2nd Social Event of Diversity in Computing, 2024 Oct 4th. Carl R. Ice College of Engineering Kansas State University, Manhattan, KS •
- 8. Artificial intelligence. S. Malallah, J. Weese.R. Feldhausen (2024). Workshop at Engineering's Senior Experience Day, 2024 Sep. Carl R. Ice College of Engineering Kansas State University, Manhattan, KS •
- 9. What Makes a Good Goal, S. Malallah, H. McGinty (2024). Host at Diversity in Computing, 2024 Sep 6th. Carl R. Ice College of Engineering Kansas State University, Manhattan, KS 🖟
- 10. Computer Science Education for Early Childhood. S. Malallah, L. Shamir. (2024). Workshop at the Computer Science Teachers Association (CSTA) Chapter Annual Conference, 2024 Jun. Kansas State University, Manhattan, KS ▶
- 11. Data Science Education for K-12. S. Malallah, J. Weese. (2024). Workshop at the Computer Science Teachers Association (CSTA) Chapter Annual Conference, 2024 Jun. Kansas State University, Manhattan, KS
- 12. Computer Science Education for Elementary BOF. N. Bean, S. Malallah. (2024). Workshop at the Computer Science Teachers Association (CSTA) Chapter Annual Conference. Kansas State University, Manhattan, KS 🖸
- 13. Navigating the Future of Business Analytics: Challenges, Opportunities, and Best Practices Data Science. S. Malallah. E. Osiobe. (2024). Panel Discussion at *ProfCon 2024*. Salt Lake City. Utah. DOI: 10.13140/RG.2.2.15621.77287
- 14. Data Science Education Around Kansas. Malallah, S., & Shamir, L. (2024). Organize a panel at *Kansas Data Science Consortium*,. Wichita, KS •
- 15. Women in Data Science in Kansas. Malallah, S., & Shamir, L. (2024). Talk at *Kansas Data Science Consortium*. Wichita, KS. DOI: 10.13140/RG.2.2.18607.34728.

- Empowering Tomorrow's Resilient Leaders: ARISE Young Engagement Initiative. Malallah, S., & Shamir, L. (2024). Talk at 2024 ARISE Annual Symposium. Olathe, KS. DOI: 10.13140/RG .2.2.14622.75847
- 17. K-5 Coding Contest. Malallah, S. (2024). Host at Kansas State University, Manhattan, KS, USA (
- 18. Data Science for Non-STEM Majors. (2024). Talk DOI: 10.13140/RG.2.2.23640.51203. Kansas State University and Baker University
- 19. Kansas Women in Data Science. Malallah, S., Osiobe, E. Shamir, L.(2024) Talk at the Social event of Women in Data Science Kansas chapter concurrent with the virtual women in data science worldwide conference by Standford University and BEDO Lab at Baker University. Kansas State University, Manhattan, KS.
- 20. Coding Your Hero Using VR and Data Science. Malallah, S. (2024). Workshop at the Girls Researching Our World (GROW) Event, Office for the Advancement of Women in Science and Engineering, Manhattan, KS, USA
- 21. K-12 Data Science Education. Malallah, S., & Shamir, L. (2023). Workshop at 1st Kansas Data Science Conference Kansas Data Science Consortium. Lawrence, KS.
- 22. Gender Stereotype in STEM Fields: A Case Study of Kuwait. Malallah, S., Osiobe, E. Shamir, L. (April 2023). Talk at *2023 Missouri, Iowa, Nebraska, and Kansas Women in Computing Conference*. Kansas City, KS. 10.13140/RG.2.2.13752.32003
- 23. How to Become an Annotator. Malallah, S., & Hsu, W. (2022). Workshop on data annotation for computer vision (CV) and pattern recognition (PR) applications at the Laboratory for Knowledge Discovery in Databases, Computer Science Department, Manhattan, KS •
- 24. Our Virtual Camp Experience. Malallah, S. (2021). Talk at the ScratchJr Virtual Event 2021.
- 25. What is Computational Thinking? Malallah, S. (2020). Talk at the virtual Barcamp 8 Event, Kuwait. •
- Sorting With Style. Malallah, S. (2018). Workshop at the Girls Researching Our World (GROW) Event, Office for the Advancement of Women in Science and Engineering, Manhattan, KS, USA
- 27. Build a Rocket from Scratch on Scratch! Malallah, S. (2018). Workshop at the Girls Researching Our World (GROW) Event, Office for the Advancement of Women in Science and Engineering, Manhattan, KS, USA
- 28. Kuwait Digital Library for Schools. Malallah, S. (2010). Talk at the Barcamp 1 Event, Kuwait (
- 29. My Journey as a Mother and a Programmer. Malallah, S. (2010). Invited speaker at Microsoft DigiGirlz event Kuwait

SUPERVISED —

Undergraduate Capstone Project

- Tatenda Sekabanja | K-State | CIS 598 | (Spring 2025)
- Lucas Boice K-State CIS 598 (Fall 2024)
- Carrie Aponte | K-State | CIS 598 | (Spring 2024)

Graduate Committee Member

- Josh Barron | Ph.D. | K-State | (Spring 2025 Current)
- Robert Stewart | Ph.D. | K-State | (Spring 2024 Current)
- Fatima Alromoh | M.S. | The University of Liverpool, UK | (Spring 2024 Current)

COMMITTEE MEMBER —

- CS Academic Standards Committee | member | K-State | (Spring 2025 Current)
- Al in Engineering Education Faculty Learning Community | member | K-State | (Fall 2025 - Current)

COMMUNITY PARTNERSHIPS -

Special Interest Group on Computer Science Education (SIGCSE)

Role: Member(Fall 2023 - Current) - Judge(2025)

Women in Data Science - Kansas (WIDSKS)

Role: Ambassador(Spring 2024 - Current)

Association for Computing Machinery (ACM-W)

Role: Member(Fall 2023-Current) - Advisor-Kstate chapter(Spring 2025)

American Society for Engineering Education (ASEE)

Role: Member(Fall 2020-current) - Reviewer(2021, 2023 * , 2024 * , 2025)

Diversity in Computing Club (DIC)

Role: Advisor(Spring 2024 - Current)

Hackathon - Hack K-State

Role: Judge(Spring 2023)

The Missouri, Iowa, Nebraska, and Kansas Women in Computing (MINK WIC)

Role: Member(Fall 2023 - Current) - Organizer(2025) - Judge(2023 🌓)

Kansas Data Science Consortium (KDSC)

Role: Member (Fall 2023 - Current) - Workshops/sessions (2023), 2024) - Panelist (2024) - Conference Organizer (2023), 2024)

Adaptive and Resilient Infrastructures driven by Social Equity - (ARISE)

Role: Member(Fall 2022-Current) - Sessions(2024-2025)

Data - Driven Discovery lab - DDD | Kansas State University

Role: Member(Fall 2022-current)

Laboratory for Knowledge Discovery in Databases - (KDD) | Kansas State University

Role: Member(Fall 2018-Spring 2023), Workshop(Spring 2023)

Software Engineering Lab | Montana State University

Role: Member(Fall 2016-Spring 2017)

Click it Club | College for Women, Kuwait University University, Kuwait

Role: Member(Fall 2006 - Fall 2007)

Kuwait Consumer Protection Civil Society | Kuwait

Role: Member(2011-Current)

Kuwait Information Technology Society | Kuwait

Role: Member (2010 - Current)

Art Studio | College of Engineering, Kuwait University, Kuwait

Role: Member (2003 - 2009)

AWARDS —

Graduate Student of the Month (*)

Carl R. Ice College of Engineering – Kansas State University, Manhattan, KS

Employee of the Year

IT Department - Kuwait Fund for Arab Economic Development, Kuwait City, Kuwait

TEACHING EXPERIENCE -

CC 110 - Introduction to Computing Fall 2023 - Spring 2024 - Fall 2024 - Spring 2025 - Fall 2025

Undergraduate course | Introductory | online | non-computer science major Kansas State University, Manhattan, KS, USA

The course explores the history of computers and programming, highlighting key historical figures and their influence on modern computing. It also covers major topics in computer science, including artificial intelligence, high-performance computing, cryptography, big data, cybersecurity, and robotics, among others.

CC 111 - Elements of Computer Programming Fall 2023 - Spring 2024 - Fall 2024 -Spring 2025 - Fall 2025

Undergraduate course | Introductory | online/in-person | non-CS major Kansas State University, Manhattan, KS, USA

The course provides a foundational introduction to computer programming. It covers essential concepts such as variables, data types, functions, conditionals, iterations, and collections. Utilizing the Python programming language, the course includes engaging interactive lessons and projects designed to reinforce and apply these new skills and concepts. The in-class time dedicated to discussions, activities, and programming exercises

CC 120 - Web Page Development

Fall 2024 - Fall 2025

Undergraduate course | Introductory | online | non-computer science major Kansas State University, Manhattan, KS, USA

This course is designed to cover the theory of web development and teaches how to build a basic website. Topics include the Internet, web browsers, and web page development using Hypertext Markup Language (HTML) and CSS. The course also explores integrating scripts into web pages, as well as an introduction to graphic design, animation, and server utilization.

CIS 115 – Introduction to Computing Science Fall 2023 - Spring 2024 - Spring 2025 - Fall 2025

Undergraduate course | Introductory | in-person | computer science major Kansas State University, Manhattan, KS, USA

This course is designed to introduce the history, fundamental theories, and basic programming concepts within Computing Science. Students engage in hands-on activities, in - class discussions, and research on key topics in the field. The course covers the evolution of computing, computational thinking, algorithm design, and internet technology, along with areas such as artificial intelligence, human-computer interaction, cybersecurity, and the connections between Computing Science and other disciplines. The in-class time dedicated to activities, and programming exercises

CIS 116 – Introduction to Programming

Fall 2024 - Spring 2025 - Fall 2025

Undergraduate course | Introductory | in-person | computer science major

Kansas State University, Manhattan, KS, USA

This in-person lab introduces fundamental programming concepts, engaging students through interactive, hands-on programming activities

CC 315 – Data Structures and Algorithms 2

Fall 2023 - Spring 2024

Undergraduate course | Middle level | online | non-computer science major Kansas State University, Manhattan, KS, USA

This course covers advanced data structures like trees, graphs, and heaps, and the algorithms associated with them. It emphasizes formal software development methods and software engineering fundamentals, including requirements analysis processes

CS 145 Web Design

Fall 2016 - Spring 2017

Undergraduate course | Introductory | in-person | non-computer science major Montana State University, Bozeman, MT, USA

This course covers fundamental design principles and their application to website construction. Students gain skills in both graphic design and web development. The course is co-taught by the Computer Science and Graphic Design departments, with each alternating in teaching sessions and leading projects

CIS 501 Software Architecture and Design

Spring 2020

Undergraduate course | Upper-level | in-person | computer science major Kansas State University, Manhattan, KS, USA

This course focuses on software engineering and software architecture. It teaches students how to read and write software blueprints, convert these blueprints into code, and apply standard design patterns and software architectures in real-world systems

CIS 526 Web Interface Design

Fall 2019

Undergraduate course | Upper-level | in-person | computer science major Kansas State University, Manhattan, KS, USA

Fundamental principles and best practices of interface design, web service design, advanced web interfaces, web development frameworks, web standards, and accessibility issues

CIS 490 Introduction to Research in K-12 Computer Science Education Fall 2024 -

Undergraduate course | Upper-level | in-person | non-computer science major and computer science major

Kansas State University, Manhattan, KS, USA

This project-based course involves students working on a research project related to K-12 computer science education. Students receive guidance throughout the project, to prepare their work for publication as a poster or paper. The course emphasizes research methods and the process of generating a scholarly paper, providing students with practical experience in academic research and communication.

CIS 890 Data Science in Practice | CIS 590 Data Science in Practice | Spring 2023 - Spring 2024 - Spring 2025 - Fall 2025

Graduate course | Upper-level | in-person | computer science major Kansas State University, Manhattan, KS, USA

An overview of fundamental concepts in Data Science, exploring the relationship between Data Science and Computer Science, as well as practical applications of data science

principles in software development through hands-on experience in solving problems using data science techniques by developing and implementing software solutions. Utilize a range of popular tools, including Scikit-learn, Weka, Gensim, and others

CIS 744 Advanced Software Analysis and Design

Fall 2020

Graduate course | Upper-level | in-person | computer science major Kansas State University, Manhattan, KS, USA

This course explores key aspects of software engineering and architecture, including object-oriented principles, modeling, and various design methodologies. Students learn to perform requirements analysis, domain analysis, and behavior analysis, and apply design principles across different levels, from static to low-level design

CIS 751/551 Introduction to Computer Security

Fall 2019

Graduate course | Upper-level | in-person | computer science major Kansas State University, Manhattan, KS, USA

This course covers the basics of computer security: from notions of operating system security to notions of cryptography and network security. The course is quite hands-on, with in-class demos and five programming assignments focused on writing buffer overflow-based exploits

Coding into the Virtual World

Summer 2023

Grade7-9 | in-person | beginners

USD383 Summer STEM Camp, Manhattan, KS, USA

The camp empowers students to build 3D games, Virtual Reality, and Augmented Reality apps that aim to make learning fun and engaging by immersing them in a safe virtual environment using the Hatch XR platform. The platform offers a variety of educational experiences in different subjects, including science, history, and language, such as exploring the human body, discovering ancient civilizations, and learning about different animals and their habitats.

Minecraft Adventure

Spring 2023 - Summer 2023

Grade3-6 in-person beginners

UFM Community Learning Center, Manhattan, KS, USA

This class offers children the opportunity to enrich their school learning by engaging with academic materials in virtual worlds. Using Minecraft Education Edition, students can safely explore educational adventures, collaborate with peers on a private server, and experience school concepts in an innovative, interactive way

Coding Around with Makey Makey

Fall 2022 - Spring 2022

Grade3-5 | in-person | beginners

UFM Community Learning Center, Manhattan, KS, USA

This class introduces children to coding, electricity, math, literacy, art, and music in an engaging, hands-on environment. Students apply engineering concepts to build art projects and use computer science principles to create interactive actions. One project involves designing musical instruments from everyday objects like bananas, recycled materials, and even the human body, generating sound through touch. Students utilize innovative tools such as the Makey Makey electronic invention kit and the Scratch app to bring their creations to life, combining creativity with STEM learning

Coding and Folding

Spring 2022

Grade2-5 in-person beginners

UFM Community Learning Center, Manhattan, KS, USA

Designed and facilitated a course that combines coding and art using an art-based robot to create animal origami robots. The class explores various animals, such as worms, cats, butterflies, and frogs, as children learn to fold origami and bring it to life with block-based programming. Through this course, students develop coding skills to control the robots while engaging in creative, hands-on learning

Tinkering and Coding Around

Spring 2020

Grade prek-3 | in-person | beginners

MHK Play Studio (previously named leDiscoveries Center), Manhattan, KS, USA

This course is tailored for young kids, providing a hands-on introduction to coding using delightful, child-friendly robots (KIBO). Through creative tinkering and playful coding challenges.

Coding and Robotics

Spring 2020

Grade prek-3 | in-person | beginners

MHK Play Studio (previously named leDiscoveries Center), Manhattan, KS, USA

Facilitated a computational thinking camp for early childhood students, introducing them to coding concepts through interactive activities with robotic companions such as Robot Mouse, Bee-Bot, Orimagi, and Ozobot. These hands-on experiences were designed to engage young learners and foster an early interest in technology and problem-solving

Starbase Fall 2018

Grade4-6 | in-person | beginners

Manhattan Kansas Starbase Program, Manhattan, KS, USA

Assisted in facilitating a coding workshop that paired programming with music. Students translated sheet music for the song "Ode to Joy" using the Scratch programming language

APPLICATION DEVELOPMENT EXPERIENCE —

- Concrete Mix Design Calculator Developed for the Kuwait Fund to AEDA as a free, online tool that uses construction project data to propose the optimal mix formula. The formula includes percentages for water, cementitious materials, coarse aggregate, fine aggregate, and air. Developed in C# .NET with Azure
- **DAR** A dual-platform system. The Client-Side allows users to update profiles, view architectural designs, and submit paperwork clearance requests. The Employee-Side enables engineers to manage client designs, oversee architectural modifications, and handle paperwork clearance workflows **Developed in** .NET
- Kfund Yearly Party An application developed for the Kuwait Fund for Arab Economic Development's annual employee party, in collaboration with the Public Relations team. The app automates employee name selection, generates contest questions, and manages event timers. Designed as an interactive game, it enhances the party experience by organizing activities, providing real-time updates, and engaging attendees with dynamic content. Developed in VB.NET, JavaScript, HTML, and MS Flash
- Eastern Sudan Donors Conference Website Designed to enable countries to register for the conference and access key information, including the agenda and event details. Developed in VB.NET

- The 1st International Workshop on Metamorphic Testing in conjunction with the 38th International Conference on Software Engineering Website – Designed to enable users to register for and access key information, including the agenda and event details. Developed in WordPress
- Kuwaiti Consumer Protection Civil Society Developed the website to help the society share resources, deliver messages, and engage with the community effectively. Developed in WordPress
- Kuwait Fund Branch System Developed for the Kuwait Fund to manage operations across the Fund's global locations, enabling staff to submit reports, update information, and access centralized resources. Developed in VB.NET
- Job Application System An online platform for the Kuwait Fund that streamlines the job application process, allowing users to submit and track applications electronically. It includes features for application review, sorting, and status updates Developed in VB.NET
- Engineers Report Tracking System Developed for the Kuwait Fund to support the engineering trainee program. This application allows trainees to submit progress reports and track their development. Program administrators and supervisors can monitor progress, validate reports, and provide feedback Developed in VB.NET
- **Kuwait Fund iPhone App** Developed for the Kuwait Fund to shares the Fund's services and information. Key features include real-time updates, notifications, and quick access to essential resources. **Developed in** objective-C
- **Public Relations Website** Developed for the Kuwait Fund to enhance communication and public engagement, this website provides up-to-date information on the Fund's activities, initiatives, and events **Developed in VB.NET**
- Ramadan Contest System Developed for the Kuwait Fund to manage contests during Ramadan. The application automates entry submissions, manages participant data, and displays contest results Developed in VB.NET
- Consulting Firms Registering System Developed for the Kuwait Fund to streamline the registration and management of consulting firms. The system allows firms to register, update information, and track application status. Developed in VB.NET
- Windows Desktop application Developed to facilitate communication across departments, allowing Kuwait Fund employees to submit requests, view profile information such as attendance, and receive administrative announcements. Developed in VB.NET and Silverlight
- Survey System Designed to facilitate the creation, distribution, and analysis of surveys within the Kuwait Fund. This application enables users to design customized surveys, collect responses, and generate detailed reports. Developed in VB.NET and Crystal Reports
- Training Centre Application Developed for the Public Institution for Social Security to manage employee training programs. The application streamlines scheduling, registration, and tracking of training sessions. Developed in VB.NET and Crystal Reports
- Employee Attendance Management System Developed for the Public Institution for Social Security to track and manage employee attendance. The system

records clock-ins, clock-outs, and leave requests, and includes tools for generating attendance reports and managing policies. **Developed in VB.NET** and Crystal Reports

Central Bank Loan Governor – Developed for the Public Institution for Social Security to manage and oversee loan processes for the central bank. The system tracks and processes loan applications, supports approval workflows, and provides financial reporting Developed in Java