

Course Syllabus - Fall B 2023

CSE 571: Artificial Intelligence

Contact Information

Instructor (IoR): Mohammad Reza Hosseinzadeh Taher

Preferred Name: Mohammad

Pronouns: He/Him/His

Live Events: Please view the course's Live Events tab and announcements for details regarding the schedule for Live Events.

Instructional Assistant (IA): Piyush Garg

Preferred Name: To be shared during the course.

Pronouns: To be shared during the course.

Live Support Sessions (IA): Please view the course's Live Events tab and announcements for details regarding the schedule for IA Live Support Sessions.

Graduate Student Assistants (Grader): Kiran Sthanusubramonian

Preferred Name: To be shared during the course.

Pronouns: To be shared during the course.

Live Support Sessions (Grader): Please view the course's Live Events tab and announcements for details regarding the schedule for Grader Live Support Sessions.

Graduate Student Assistants (Grader): Shlok Gupta

Preferred Name: To be shared during the course.

Pronouns: To be shared during the course.

Content and Project

Questions: [Ed Discussion](#)

Technical Support: [Coursera Learner Help Center](#)

Note: Please make sure you are logged in so that support personnel recognize you as an ASU learner.

General Support: mcsonline@asu.edu

Note: When sending an email about this class, please include the prefix "CSE 571" in the subject line of your message. Please use this email address for questions that are private in nature. If it is a question that would benefit your classmates, and is not private in nature, please post in Ed Discussion.

Course Description

The field of Artificial Intelligence (AI) develops the principles and processes for designing autonomous agents. This course addresses the core concepts in designing autonomous agents that can reason, learn, and act to achieve user-given objectives and prepares students to address emerging technical and ethical challenges using a principled approach to the field. Main topics include principles and algorithms that empower modern applications and future technology development for self-driving vehicles, personal digital assistants, decision support systems, speech recognition and natural language processing, autonomous game-playing agents, and household robots.

Specific topics covered include:

- Neural Networks
- Classical Planning
- Modeling & Reasoning
- Reinforcement Learning
- Bayesian Networks
- Sensors for Perception
- Perception based Recognition
- Real-world Applications
- Robotics
- Quantum Computing

Learning Outcomes

Learners completing this course will be able to:

- Apply logical reasoning and programming to produce solutions for real-world problems.
- Use probabilistic inference to navigate uncertain information efficiently.
- Determine appropriate machine learning methods for a given scenario or dataset.
- Evaluate the challenges in perception systems for AI.
- Utilize sensors to execute perception tasks and their applications in intelligent systems.
- Apply algorithms to train an image classifier.
- Design an agent that can plan and act to achieve given objectives using noisy sensors and actuators.

Estimated Workload/ Time Commitment Per Week

Average of 18 - 20 hours per week

Skill Expectations

During the course, learners are expected to:

- Use high level programming languages (e.g., Python preferred)
- Implement AI algorithms using Python
- Use Digital Drawing tools (e.g., for constructing Parse Trees)
- Use any one of the following frameworks:
 - Jupyter Notebook
 - Google Colab
 - Pytorch
- Gain familiarity with these tools/libraries:
 - Numpy
 - Pandas
 - Tensorflow
 - Keras
 - Matplotlib
 - Scikit Learn
 - Microsoft Office 365

Required Prior Knowledge and Skills

This course will be very challenging, and learners are expected to learn the necessary technologies on their own time.

Proficient Mathematical Skills and Theoretical Understanding

- Algebra
- Linear Algebra
- Probability
- Statistics
- Algorithms
- Data Structures
- Computer Organization and Architecture
- Operating Systems
- Discrete Math

Strong Application Skills

- Programming in Python
- Ability to effectively read Python code
- Confidence in executing at least one programming language:
 - Python
 - Matlab
 - R

Proficient Experience

Learners are expected to enter the course, having demonstrated, confident experience:

- Using high-level programming language (e.g., Python preferred)
- Implementing AI algorithms using Python
- Using digital drawing tools (e.g., for constructing Parse Trees)
- Employing any one (1) of the frameworks:
 - Jupyter Notebook
 - Google Colab
 - Pytorch
- Implementing the tools/libraries:

- Numpy
- Pandas
- Tensorflow
- Keras
- Matplotlib
- Scikit Learn
- Microsoft Office 365

Technology Requirements

Hardware

- Standard personal computer with major operating system
- Reliable, strong Internet connection
- Webcam
- Microphone

Software/Other

- Matlab
- Ubuntu 18.04
- PyTorch
- GProlog 1.4.5
- Cygwin (Windows users)
- Pip and Pgmpy
- Python 3.6 to 3.7

The course project will be completed using the language that the learner chooses. However, the course team will not be able to help the learner if they choose any language that is not Python.

Textbook and Readings

At the graduate level, inquiry, research, and critical reading are part of the learning experience; however, this course does not have a required textbook.

Course Schedule and Important Dates

Course teams will not be working on ASU's days off* and those are listed in the Course Schedule. Please review the [ASU Days Off](#) for more details.

Week/Title	Begins at 12:01 AM Arizona (AZ) Time	Ends at 11:59 PM Arizona (AZ) Time
Welcome and Start Here	October 05	October 15
Week 1: Introduction to Machine Learning	October 11	October 15
Week 2: Introduction to Neural Networks	October 16	October 22
Week 3: Recurrent Neural Networks	October 23	October 29
Week 4: Convolutional Neural Networks	October 30	November 05
Midterm Exam <i>Assesses weeks 1, 2, 3, and 4</i>	November 05	November 12
Week 5: Perception <i>*ASU Day Off: Friday, November 10, 2023</i>	November 06	November 12
Week 6: Logic Reasoning	November 13	November 19
Course Survey	This will be updated in your course.	This will be updated in your course.
Week 7: Sequential Decision-Making <i>*ASU Days Off: Thursday, November 23, 2023 and Friday, November 24, 2023</i>	November 20	November 26
Final Exam <i>Cumulative: Assesses weeks 1, 2, 3, 4, 5, 6 and 7</i>	November 26	December 03
Request for Faculty Review: MCS Portfolio Project Report Inclusion Request Optional, degree-seeking learner degree requirement	November 27	First submission deadline by: December 5, 2022

If you submit by the first deadline and it is not accepted, you are encouraged to review the feedback and re-submit it a second time by the last submission deadline. Anything submitted past the last submission deadline will not be reviewed for approval in your portfolio to meet your degree requirements. You will have to repeat this process for another course and a project from that course.		Last submission deadline (if necessary) by December 22, 2023
Faculty Feedback for the Review: MCS Portfolio Project Report Inclusion Request Optional, degree-seeking learner degree requirement	December 8, 2023	January 5, 2024
Course Closes Once the course closes, you will no longer be able to access coursework you have submitted, so please download copies of what you would like from the course (e.g., Request for Faculty Review: MCS Portfolio Project Report Inclusion Request)		January 19

Grades are due December 11, 2023. Please see the [ASU Academic Calendar](#) for additional information.

Assignment Deadlines and Late Penalties

Unless otherwise noted, all graded work is due on **Sundays at 11:59 PM Arizona (AZ) time**. For learners with accommodations through [Student Accessibility and Inclusive Learning Services \(SAILS\)](#) and/or the [Pat Tillman Veterans Center \(PTVC\)](#), please work with your SAILS consultant and/or PTVC Advocacy Team, Connect, and your instructor.

Project

A single-automatic late penalty of 5% is applied after the scheduled due date and time.

- **Part 1 - Neural Network for Collision Prediction Project** - due at the end of Week 2
- **Part 2 - Neural Network for Collision Prediction Project** - due at the end of Week 3
- **Part 3 - Neural Network for Collision Prediction Project** - due at the end of Week 4
- **Part 4 - Neural Network for Collision Prediction Project** - due at the end of Week 5

Exams

A single-automatic late penalty of 100% is applied after the scheduled due date and time.

- **Midterm Exam** - available from Sunday, November 05, 2022 at 12:01 AM AZ Time until Sunday, November 12, 2022 at 11:59 PM AZ Time
- **Final Exam** - available from Sunday, November 26, 2022 at 12:01 AM AZ Time until Sunday, December 03, 2022 at 11:59 PM AZ Time

Course Content

Each course in the MCS program is uniquely designed by expert faculty, so learners can best master the learning outcomes. As a result, course features and experiences are not the same across all MCS courses. Learners are expected to plan accordingly to accommodate for these differences.

Feedback Descriptions

The feedback descriptions are specific to auto-graded or auto-feedback items in the course.

- **Limited:** you will be able to see your Total Score, which includes the overall total percent (%) and the number (#) of points.
- **Partial:** you will be able to see your Question Score, which includes the correct or incorrect status and the total points for each question.
- **Full:** you will be able to see your Options and Feedback, which includes any itemized additional feedback.

Details of the main instructional and assessment elements in this course:

If you have specific questions related to instructional and assessment items in this course that you would like to be considered to be addressed in the weekly Live Event hosted by the instructor, please clearly indicate your request in your Ed Discussion thread.

Lecture Videos

The concepts you need to know are presented through a collection of video lectures. You may stream these videos for playback within the browser by clicking on their titles or download the videos. Where

available, you may download the individual slides that go along with the videos. To further support learning, all of the videos include transcripts and most include PDF lecture slides. Weekly overview videos, assignment videos, and project-related videos do not have PDF lecture slides because they are not lectures and have associated documents specific to them.

A media guide is included at the beginning of each week in the Overview section. These guides are designed to give you a snapshot description of each week's media components and to provide the week's PDF lecture slides or note-taking materials where available, so you can plan your learning and quickly go back and review the material as you prepare for your coursework.

Ed Discussion

Ed Discussion (Ed) is being used in place of Coursera Discussion Forums. The purpose of Ed Discussion is to provide a place for learners to ask questions and receive answers from course staff and peers about course content and course work. There are designated categories for course items. You must select a category and subcategory to start a thread.

Discussions in Ed are designed to provide:

- Clarification
- Feedback
- Enrichment and deeper learning
- Connections between concepts or key ideas
- Reflection opportunities of real-world experiences
- Respectful debate and perspective building
- Resource sharing
- Networking

There are no late penalties. Ed Discussion is not counted toward your final grade in the course.

Designated Project Discussion in Ed Discussion

Use Ed Discussion to discuss items relating to the course projects. Questions/Threads should be categorized by their designated week and title in Ed. Please check for questions already asked and answered, or marked as resolved.

There are no late penalties. Ed Discussion is not counted toward your final grade in the course.

In-Video Questions

Designed to support your learning, highlight specific content, encourage active viewing and/or

note-taking, and provide practice opportunities, these are short, ungraded quizzes to test your knowledge of the concepts presented in the lecture videos. You may take your time, review your notes, and learn at your own pace because in-video questions are untimed. With unlimited attempts, you may retake these as often as you would like at any point in the course. When provided, you are expected to read the full, partial, or limited feedback.

There are no late penalties. In-Video questions are not counted toward your final grade in the class.

Knowledge Checks

Designed to support your learning, these are short, ungraded quizzes to test your knowledge of the concepts presented in the lecture videos. You may take your time, review your notes, and learn at your own pace because knowledge checks are untimed. With unlimited attempts, you may retake these as often as you would like at any point in the course. You are encouraged to read the full feedback, review your answer choices, and compare them to the correct answers. With the feedback as your guide, you may use these as opportunities to study for other assessments and tasks in the course.

There are no late penalties. Knowledge Checks are not counted toward your final grade in the class.

Practice Quizzes

There is a practice quiz to help prepare you for each graded quiz. You may retake these as often as you like at any point in the course. You are encouraged to read the full feedback, review your answer choices, and compare them to the correct answers. With the feedback as your guide, you may use these as opportunities to study for other assessments and tasks in the course. With the feedback as your guide, you may use these as opportunities to study for other assessments and tasks in the course.

There are no late penalties. Practice quizzes are not counted toward your final grade in the class.

Individual Project

This course includes one (1) individual project that is broken into four (4) parts. The project is provided in the first week of the course in the *Welcome and Start Here* section, so you can preview what is expected and design your own learning schedules to complete these on time. Each part has a submission space at the end of the week it is due. As a set of four (4), the project as a whole may be included in the Request for Faculty Review: MCS Portfolio Project Report Inclusion Request, which is optional and for degree-seeking learners only.

The project counts toward your final grade in the class.

Request for Faculty Review: MCS Portfolio Project Report Inclusion Request

This is an optional task for degree students wanting to use this course's project(s) as part of their portfolio degree requirement/specialization requirements. Review your onboarding course and the Welcome and Start Here section of your course for more details. The submission space is towards the end of the course.

Your Request for Faculty Review: MCS Portfolio Project Report Inclusion Request will be evaluated only if you meet the criteria (see your MCS Handbook for more details):

- Course letter grade of a B or higher
- Degree-seeking students with course letter grades that are lower than a B will not have their submissions reviewed.

Although there are no late penalties, these requests must be submitted by the designated deadline. The Request for Faculty Review: MCS Portfolio Project Report Inclusion Request does not count toward your final grade in the class.

- Address these projects in your Request for Faculty Review: MCS Portfolio Project Report Inclusion Request:
 - Part 1 - Neural Network for Collision Prediction Project
 - Part 2 - Neural Network for Collision Prediction Project
 - Part 3 - Neural Network for Collision Prediction Project
 - Part 4 - Neural Network for Collision Prediction Project

Practice Exams

In order to help you prepare for your proctored exams, you will have practice exams. Since they are intended to be practice opportunities and to help you learn, they are untimed, ungraded, and include feedback. You may engage with your peers in Ed Discussion to address questions, share resources and strategies, and provide feedback to help one another learn. You are encouraged to read the full feedback, review your answer choices, and compare them to the correct answers. You are encouraged to submit questions in Ed Discussion for the course team to address during Live Sessions. Use the feedback to guide your learning and to study for the proctored exam.

There are no late penalties. Practice exams are not counted toward your final grade in the class.

Proctored Exams

You have two (2) proctored, timed exams. These consist of a Midterm Exam and a Final Exam. Proctored exams include limited feedback. Read the Graded Quiz and Exam Policy for your course for more information.

No late exams will be permitted or accepted and will result in a score of zero points (0). This does not include established accommodations for learners with disabilities. Proctored exams count toward your final grade in the class.

Exam Details	Midterm Exam	Final Exam
Content Covered	Weeks 1, 2, 3, and 4	Weeks 1, 2, 3, 4, 5, 6, and 7
Question Type	The question types will be shared prior to the exam availability window opening.	The question types will be shared prior to the exam availability window opening.
Number of Questions	The number of total questions will be shared prior to the exam window opening. 1 academic integrity question	The number of total questions will be shared prior to the exam window opening. 1 academic integrity question
Availability Start	Sunday, November 05, 2023 at 12:01 AM AZ Time	Sunday, November 26, 2023 at 12:01 AM AZ Time
Availability End	Sunday, November 12, 2023 at 11:59 PM AZ Time	Sunday, December 03, 2023 at 11:59 PM AZ Time
Last Available ProctorU Appointment	Sunday, November 12, 2023 at 9:01 PM AZ Time	Sunday, December 03, 2023 at 9:01 PM AZ Time
Duration	120 minutes + plan for at least 15 minutes for proctoring set up	120 minutes + plan for at least 15 minutes for proctoring set up

Exam Allowances

- Any resources not included in this list are **not** allowed during the exam or in your exam space.

- **Hardcopy and/or digital books and/or reference materials (all):** None
- **Calculators (all):** Learners may have calculators. This includes:
 - Four Function Calculator
 - Scientific Calculator
 - Graphing Calculator
 - Computer's Calculator
 - Online Calculator: including Windows/OS and online calculator
 - Financial Calculator
- **Notes in any format of any kind (all):** Learners are allowed notes to reference during the exam. This includes:
 - No more than six (6) front-and-back hard copy pages
 - No larger than standard letter-size A4 paper may be used
 - Notes may be hand-written, printed, or a combination of hand-written and printed
 - Notes must be free-standing hard copies and not within any other items, such as, but not limited to: within a book, notebook, or binder. Have your notes out prior to starting the proctoring review and easily available in your work space.
- **Web (all):** None
- **Software (all):** None
- **Other technologies, devices, and means of communication (all):** None
- **Whiteboard, scratch paper, writing utensils, erasing resources:** Learners are *strongly* encouraged to use the whiteboard option instead of scratch paper.
 - If using a whiteboard, learners may have erasable whiteboard markers and what is needed to erase writing on the whiteboard; please have extra whiteboard markers and eraser resources in your testing area.
 - If using scratch paper, learners may have an unlimited amount of blank scratch paper of any size, writing utensils (e.g., pens, pencils, markers, and/or highlighters) and erasers; please have extra ones in your testing area should you run out of ink, the pencil breaks, etc.
 - Before the exam concludes and the proctoring session ends, all scratch paper must be destroyed and all whiteboard markings must be erased. The last

question in the exam will be a confirmation of learners executing these ASU academic integrity actions.

- **Other:** Learners are to independently take the exam in a single session without leaving the testing space (e.g., no bathroom breaks) to ensure proctoring of the entire session. Once you open the exam, your testing session begins. You will be allowed one (1) attempt to take and complete each exam. Learners are to stay within a clear view of the proctor throughout the duration of the proctored exam session. You will be unable to open the exam until the exam proctor enters the password during the date and time you scheduled to take your exam with [ProctorU](#).
- **Reminder:** All virtual machines must be closed *prior* to starting proctoring.

Proctoring

[ProctorU](#) is an online proctoring service that allows learners to take exams online while ensuring the integrity of the exam for the institution.

- You are expected to scan your testing space using your webcam for the proctor. Proctoring also requires you to have sound and a microphone. Please plan accordingly.
- You are strongly encouraged to schedule your exam(s) within the first two weeks of the course to ensure you find a day and time that works best for your schedule. Time slots can fill up quickly, especially during high volume time periods.
 - You *must* set up your proctoring at least 72 hours prior to the exam.
- **The exam proctor will input the exam password.**
- Additional information and instructions are provided in the *Welcome and Start Here* section of the course.
- **When you are going to schedule exams, you *must* pick “Coursera” as your institution.**
- Learners with exam accommodations through [Student Accessibility and Inclusive Learning Services \(SAILS\)](#) should not schedule exams until they receive an email invitation specifically for them from ProctorU.
- Your ID needs to be in English. See your MCS Onboarding Course for more information.

Course Grade Breakdown

Course Work	Quantity	Team or Individual	Percentage of Grade
Part 1 - Neural Network for Collision Prediction Project Worth 25% weighting within the 70% overall project weighting	1	Individual	
Part 2 - Neural Network for Collision Prediction Project Worth 25% weighting within the 70% overall project weighting	1	Individual	
Part 3 - Neural Network for Collision Prediction Project Worth 25% weighting within the 70% overall project weighting	1	Individual	70%
Part 4 - Neural Network for Collision Prediction Project Worth 25% weighting within the 70% overall project weighting	1	Individual	
Midterm Exam	1	Individual	10%
Final Exam	1	Individual	20%

*The project(s) count for 30% or more of the overall course grade, so this is a portfolio eligible course. See the [MCS Graduate Handbook](#) for more information about the portfolio requirement if you are a degree student.

Grade Scale

You must earn a cumulative grade of 70% to earn a “C” in this course. You must earn at least a “C” to receive graduate credit. This course has no grade curving. All graded coursework will be included to calculate grades (i.e., no graded items will be dropped). Grades will not be rounded. Grades in this course will include pluses.

The instructor reserves the right to adjust individual grades based on, but not limited to: violations of academic integrity.

Letter Grade	Percentage
A	90% - 100%
B	80% - 89.99%
C	70% - 79.99%
D	60% - 69.99%
E	<60%

Grades at 59.99 and below will result in a letter grade of E.

Live Events

This course has three (3) types of live events:

1. Instructor Live Events
2. IA Live Support Sessions
3. Grader Live Support Sessions

Check the Live Events page in your course for your local time and access details. Although we try to be consistent for our learners' planning purposes, the Live Event schedule is subject to change throughout the course, so stay up-to-date on the event details by checking your Course Announcements and the Live Events page in your course.

You may join all live events from the course's Live Events page. The event's title will become active as a Zoom link ten (10) minutes before each event starts. You will also receive an email with a link to the Live Event or Live Support Session the day before the event starts.

Read about the specific policies related to Live Events in the Policy section of this syllabus: Live Events, Policy Regarding Expected Classroom Behavior, and the Student Code of Conduct for more detailed information.

Instructor Live Events - Weekly

Instructor Live Events are a valuable part of the learning experience because learners can meet with the course instructor and fellow classmates to learn more about course topics, special topics within the field, and discuss coursework. If you are able to attend these events, you are strongly encouraged to do so. If you have specific questions or topics of interest to be discussed during these events, please indicate your request in an Ed Discussion thread. Although it may not be possible to address all requests during the live event, the instructor is interested in tailoring this time to your questions and interests. The instructor will be following a set agenda, so please be mindful of that when engaging in the live event.

Instructor Live Events will be recorded and uploaded to the course. These can be found at the end of each week in the course.

IA Live Support Sessions - Weekly

IA Live Support Sessions offer a chance for learners to get their questions answered from the course team related to content: clarifications, reteaching, assessment review, etc. Although the course team is responsive to trends in Ed Discussion and mcsonline@asu.edu emails, these sessions provide another communication avenue for support. These sessions are **not** intended to address program or course design questions or feedback. IAs do **not** have the authority to weigh in or make decisions regarding those items, so please do **not** include those at this time. These sessions are specific to helping learners learn materials and understand various course assessments. Feedback of that nature is best addressed in the communication channel: mcsonline@asu.edu and please include it in your course survey.

Live Support Sessions are recorded, but not uploaded into the course. It is at the discretion of the IoR if these sessions will be added during the course session.

Grader Live Support Sessions - Weekly

Grader Live Support Sessions offer a chance for learners to get their questions answered specifically about graded coursework. Although the course team is responsive to trends in Ed Discussion and mcsonline@asu.edu emails, these sessions provide another communication avenue for support. These sessions are **not** intended to address program or course design questions or feedback. Graders do **not** have the authority to weigh in or make decisions regarding those items, so please do **not** include those at this time. These sessions are specific to helping learners learn materials and understand various course assessments. Feedback of that nature is best addressed in the communication channel: mcsonline@asu.edu and please include it in your course survey.

Live Support Sessions are recorded, but not uploaded into the course. It is at the discretion of the IoR if these sessions will be added during the course session.

Policies

All ASU and Coursera policies will be enforced during this course. For policy details, please consult the MCS Graduate Handbook and the MCS Onboarding Course.

Exams

Each course in the MCS program is uniquely designed by expert faculty so that learners can best master the learning outcomes specific to each course. By design, course features and experiences are different across all MCS courses.

In the MCS program, we strive to provide learners with exercises and applied practice beyond quizzes and exams that align with the hands-on nature of the computer science industry. Ungraded practice opportunities *may* include, but are not limited to: in-video-questions (IVQs), knowledge check quizzes (KCs), weekly (i.e., unit) practice quizzes, practice exams, and other assignments or exercises. For all these learning activities, the questions and correct answers are provided to learners. When available, auto-generated typed feedback is built into the course to further help learners learn in real-time. Please thoroughly review your course to ensure that you are aware of the types of practice opportunities available to you.

For academic integrity purposes, once grades are made available, learners will see their overall total scores. Like other standardized tests, such as the GRE and SAT, learners will receive a singular grade for the graded quizzes and exams, but the questions, correct and incorrect answers, and feedback to each question will **not** be provided.

If learners desire 1:1 feedback for their questions on graded assessments, please submit questions to mcsonline@asu.edu. Rather than receiving the exact questions learners had correct and incorrect and the answers to those questions, learners will likely receive the concepts that were covered in the assessment questions so they will know what they need to review prior to other assessments and how to apply this information in their professional environments.

Absence Policies

There are no required or mandatory attendance events in this online course. Live Events, both Live Sessions hosted by the instructor and Virtual Office Hours hosted by the course team do not take attendance.

Learners are to complete all graded coursework (e.g., projects and exams). If exceptions for graded coursework deadlines need to be made for excused absences, please reach out to the course team by the end of the second week of the course using the mcsonline@asu.edu email address. Review the exam availability windows and schedule accordingly. The exam availability windows allow for your own flexibility and you are expected to plan ahead. Personal travel does not qualify as an excused absence and does not guarantee an exception.

Review the resources for what qualifies as an excused absence and review the late penalties in the Assignment Deadlines and Late Penalties section of the syllabus and the course:

- a. Excused absences related to religious observances/practices that are in accord with [ACD 304–04](#), “Accommodation for Religious Practices” (please see [Religious Holidays and Observances](#)).
- b. Excused absences related to university sanctioned events/activities that are in accord with [ACD 304–02](#), “Missed Classes Due to University-Sanctioned Activities”.
- c. Excused absences related to missed class due to military line-of-duty activities that are in accord with [ACD 304–11](#), “Missed Class Due to Military Line-of-Duty Activities,” and [SSM 201–18](#), “Accommodating Active Duty Military”.

Live Event Expectations

The environment should remain professional at all times. Inappropriate content/visuals, language, tone, feedback, etc. will not be tolerated, reported and subject to disciplinary action. Review the Policy Regarding Expected Classroom Behavior section of the syllabus and the Student Code of Conduct for more detailed information.

Policy Regarding Expected Classroom Behavior

The aim of education is the intellectual, personal, social, and ethical development of the individual. The educational process is ideally conducted in an environment that encourages reasoned discourse, intellectual honesty, openness to constructive change, and respect for the rights of all individuals. Self-discipline and a respect for the rights of others in the university community are necessary for the

fulfillment of such goals. An instructor may withdraw a student from a course with a mark of "W" or "E" or employ other interventions when the student's behavior disrupts the educational process. For more information, review [SSM 201–10](#).

If you identify something as unacceptable classroom behavior in any communication channel (e.g., Ed Discussion, Zoom, Live Events, Slack, etc.), please notify the course team using the mcsonline@asu.edu email. For more specifics on appropriate participation, please review our Netiquette infographic.

Our classroom community rules are to:

- Be professional
- Be positive
- Be polite
- Be proactive

Academic Integrity

Students in this class must adhere to ASU's academic integrity policy, which can be found at <https://provost.asu.edu/academic-integrity/policy>. Students are responsible for reviewing this policy and understanding each of the areas in which academic dishonesty can occur. In addition, all engineering students are expected to adhere to both the ASU Academic Integrity [Honor Code](#) and the Fulton Schools of Engineering [Honor Code](#). All academic integrity violations will be reported to the Fulton Schools of Engineering Academic Integrity Office (AIO). The AIO maintains a record of all violations and has access to academic integrity violations committed in all other ASU colleges/schools.

Specific academic integrity announcements for this class are:

- Learners in violation will receive a zero (0) on the graded coursework item for the first academic integrity issue. Some academic integrity issues may be subject to further consequences, depending on the investigation and the results. If there have been other reported academic integrity issues in other courses, both in MCS courses or other courses, please move to the next bullet.
- Any issues after the first issue will result in a removal from the class with an XD designation on both official and unofficial transcripts.
- All academic integrity issues will be reported and all decisions by the University will be carried out.
- No refunds are provided when there are academic integrity issues.

Copyright

The contents of this course, including lectures (Zoom recorded lectures included) and other instructional materials, are copyrighted materials. Students may not share outside the class, including uploading, selling or distributing course content or notes taken during the conduct of the course. Any recording of class sessions is authorized only for the use of students enrolled in this course during their enrollment in this course. Recordings and excerpts of recordings may not be distributed to others. (see [ACD 304-06](#), "Commercial Note Taking Services" and ABOR Policy [5-308 F.14](#) for more information).

You must refrain from uploading to any course shell, discussion board, or website used by the course instructor or other course forum, material that is not the student's/learner's original work, unless the student/learner first complies with all applicable copyright laws; faculty members reserve the right to delete materials on the grounds of suspected copyright infringement.

Policy Against Threatening Behavior, per the Student Services Manual, ([SSM 104-02](#))

Students, faculty, staff, and other individuals do not have an unqualified right of access to university grounds, property, or services (see [SSM 104-02](#)). Interfering with the peaceful conduct of university-related business or activities or remaining on campus grounds after a request to leave may be considered a crime. All incidents and allegations of violent or threatening conduct by an ASU student (whether on- or off-campus) must be reported to the ASU Police Department (ASU PD) and the Office of the Dean of Students.

Disability Accommodations

Suitable accommodations will be made for students having disabilities. Students needing accommodations must register with [ASU Student Accessibility and Inclusive Learning Services](#). Students should communicate the need for an accommodation at the beginning of each course so there is sufficient time for it to be properly arranged. These requests should be submitted through the [online portal](#). See [ACD 304-08](#) Classroom and Testing Accommodations for Students with Disabilities. ASU Student Accessibility and Inclusive Learning Services will send the instructor of record a notification of approved accommodations and students are copied on these letters. It is recommended that students reply to the faculty notification letters, introduce themselves to their instructor, and share anything they might want to disclose.

Harassment and Sexual Discrimination

Arizona State University is committed to providing an environment free of discrimination, harassment, or retaliation for the entire university community, including all students, faculty members, staff employees, and guests. ASU expressly prohibits discrimination, harassment, and retaliation by employees, students, contractors, or agents of the university based on any protected status: race, color, religion, sex, national origin, age, disability, veteran status, sexual orientation, gender identity, and genetic information.

Title IX is a federal law that provides that no person be excluded on the basis of sex from participation in, be denied benefits of, or be subjected to discrimination under any education program or activity. Both Title IX and university policy make clear that sexual violence and harassment based on sex is prohibited. An individual who believes they have been subjected to sexual violence or harassed on the basis of sex can seek support, including counseling and academic support, from the university. If you or someone you know has been harassed on the basis of sex or sexually assaulted, you can find information and resources at <https://sexualviolenceprevention.asu.edu/faqs>.

Mandated sexual harassment reporter: As a mandated reporter, I am obligated to report any information I become aware of regarding alleged acts of sexual discrimination, including sexual violence and dating violence. ASU Counseling Services, <https://eoss.asu.edu/counseling>, is available if you wish to discuss any concerns confidentially and privately.

Disclaimer

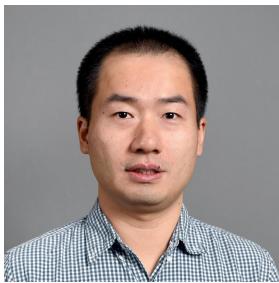
The information in this syllabus may be subject to change without advance notice. Stay informed by checking course announcements and the syllabus section of your course.

Course Creator(s)



Yuli Deng, PhD

Dr. Yuli Deng is a lecturer at GOEE and SCAI in ASU. His research interests include adaptive learning technology in cybersecurity education and the advancement of cybersecurity technologies through the application of multi-disciplinary approaches such as artificial intelligence and machine learning. He received his doctoral degree in Computer Science from Arizona State University in 2021.



Yu “Tony” Zhang, PhD

Yu (“Tony”) Zhang, PhD is an Assistant Professor at Arizona State University (ASU), where he directs the Cooperative Robotic Systems (CRS) laboratory. He graduated with a Ph.D. degree in Computer Science from the University of Tennessee, Knoxville in 2012. His research interests include the intersection of artificial intelligence (AI) and robotics. The focuses are innovating and applying AI and machine learning methods to human-robot teaming, multi-agent systems, distributed robotic systems, and more generally, human-in-the-loop AI systems. His research has been funded by federal governments and agencies, such as the National Science Foundation (NSF), National Aeronautics and Space Foundation (NASA) and Air Force of Scientific Research(AFOSR). Zhang has been highlighted with “Best Paper” Awards in premier robotics conferences. He is also a member/senior member of the program committees of major AI and robotics conferences, such as AAAI, IJCAI, IROS, and ICRA.



Heni Ben Amor, PhD

Heni Ben Amor, PhD is an Assistant Professor at Arizona State University (ASU) where he leads the ASU Interactive Robotics Laboratory. He studied Computer Science at the University of Koblenz-Landau (GER) and earned a PhD in robotics from the Technical University Freiberg and the University of Osaka in 2010 where he worked with Hiroshi Ishiguro and Minoru Asada. He received the NSF CAREER Award as well as the Outstanding Assistant Professor Award in 2018. Prior to that, he was a Research Scientist at the Institute for Robotics and Intelligent Machines at GeorgiaTech in Atlanta. Heni's research topics focus on artificial intelligence, machine learning, human-robot interaction, robot vision, and automatic motor skill acquisition. He received the highly competitive Daimler-and-Benz Fellowship as well as several "Best Paper" awards at major robotics and AI conferences. He is also on the program committee of various AI and robotics conferences such as RSS, AAAI, IJCAI, IROS, and ICRA.



Yezhou Yang, PhD

Yezhou Yang, PhD is an Assistant Professor at the School of Computing, Informatics, and Decision Systems Engineering (CIDSE), Arizona State University (ASU), directing the Active Perception Group (APG). He received his MS and PhD degrees in Computer Science from the University of Maryland at College Park in 2013 and 2015 respectively. Prior to that, he obtained a B.Eng. degree in Computer Science and Engineering from Zhejiang University, China. His primary research focus is in Computer Vision and Robot Vision, especially exploring visual primitives in interpreting peoples' actions and the scene's geometry from visual input, grounding them by natural language as well as high-level reasoning over the primitives for intelligent systems. His research mainly focuses on solutions to visual learning, which significantly reduces the time to program intelligent agents. He is a recipient of Qualcomm Innovation Fellowship 2011, Verisk AI faculty award, and the NSF CAREER award in 2018.



Siddharth Srivastava, PhD

Siddharth Srivastava, PhD is an Assistant Professor of Computer Science in the School of Computing, Informatics, and Decision Systems Engineering (CIDSE) at Arizona State University (ASU). Prof. Srivastava was a Staff Scientist at the United Technologies Research Center in Berkeley. Prior to that, he was a postdoctoral researcher in the RUGS group at the University of California Berkeley. He received his PhD in Computer Science from the University of Massachusetts Amherst. His research interests include robotics and AI, with a focus on reasoning, planning, and acting under uncertainty. His work on integrated task and motion planning for household robotics has received coverage from international news media. His dissertation work received a “Best Paper” award at the International Conference on Automated Planning and Scheduling (ICAPS) and an Outstanding Dissertation award from the Department of Computer Science at UMass Amherst.