Offered Courses

Where We Are?

MMI-M Track

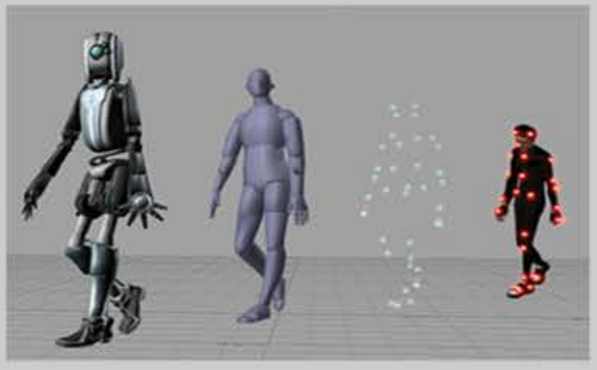
Multimedia Computing

- Multimedia Computing I
- Multimedia Computing II
- Multimedia Information Theory
- Perceptual Computing and Multimodal Analytics
- Machine Audition
- Motion Capture, Analysis and Synthesis
- Ambient Intelligence and Affective Systems
- Multimedia Standards
- Graduate Seminar
- Masters Thesis

MMI-G Track

Game Technologies

- Game Development Pipeline
- Game Metrics
- Game Aesthetics
- Procedural Sound Design
- Physics for Computer Games
- Artificial Intelligence in Computer Games
- Non-Digital Game Design
- Modelling Outdoor Virtual Environments for Simulations and Games
- Applied Parallel Programming on Gpu
- Psychology in Game Design
- Graduate Seminar
- Masters Thesis



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INFORMATICS INSTITUTE

ORTA DOĞU TEKNİK ÜNİVERSİTESİ
MIDDLE EAST TECHNICAL UNIVERSITY

multimedia informatics

M.S. Program

General Information

Multimedia Informatics M.S. Program

Multimedia Informatics (MMI) is an M.S. program established in 2016 within the Informatics Institute at Middle East Technical University, as a successor of the Game Technologies (GATE) M.S. program founded in 2009. The primary aim of the program is to educate its students on state-of-the-art multimedia technologies including computer vision and audition, motion capture and tracking, affective computing, ambient intelligence, virtual/augmented realities, and game technologies. The program has a strong research component with a prominent interdisciplinary edge. The interdisciplinary aspects of the program are reflected not only in the academic backgrounds of the faculty who teach at the program but also by the diverse backgrounds of its students.

Academic Staff

Kürşat ÇAĞILTAY, Prof. Dr.
Hüseyin HACIHABİBOĞLU, Assoc. Prof. Dr.
Uğur HALICI, Prof. Dr.
Veysi İŞLER, Prof. Dr.
Elif SÜRER, Dr.
Bahar ŞENER PEDGLEY, Assoc. Prof. Dr.
Alptekin TEMİZEL, Assoc. Prof. Dr.
Tuğba TOKEL, Assist. Prof. Dr.
Ahmet UYSAL, Assoc. Prof. Dr.
Çağatay ÜNDEĞER, Dr.
Erdal YILMAZ, Dr.
Murat YILMAZ, Dr.

MMI-G Track

Game Technologies

MMI-G track consists of game-related courses that cover the technical development aspects and design aspects of game development. The research and thesis work carried out by the students reflect novel and innovative aspects of cutting-edge research in game technologies. The program has strong collaboration and research links with other game technology labs as well as game technology industry in Turkey, other countries in Europe and other overseas countries. The program is also supported by game companies in METU Technopolis as well as METUTECH-ATOM, the game technology pre-incubator in the METU Technopolis.

MMI-M Track

Multimedia Computing

MMI-M track aims to build a strong background in multimedia technologies and to offer a diverse selection of courses that addresses the recent developments in the field. The variety of the courses and the academic backgrounds of the staff create a fruitful environment for interdisciplinary research. Main research areas are audio processing computer vision, social signal processing and motion analysis. Research infrastructure at the disposal of MMI students and staff empowers the quality and outcomes of the research and provides a high-tech and up-to-date setting to target and test novel advancements.

Research and Laboratories

The research and thesis work carried out by the students reflect novel and innovative aspects of cutting-edge research in multimedia informatics. Research infrastructure at the disposal of MMI students and staff include:

- Gate-R Lab
- Motion Capture Lab
- Spatial Audio Research Group (SPARG)
- Virtual Reality and Computer Vision Research Group
- NVIDIA GPU Research and Education Center

Industry Relations

The program has strong collaboration and research links with other multimedia labs as well as game technology industry in Turkey, other countries in Europe and other overseas countries.

- NVIDIA Cuda Research
- Intel Galileo Program
- METU Technopolis
- METUTECH-ATOM Game Technology Pre-Incubator

Our strong links with the game technology companies has resulted in the formation of our industry board. The members of this group of experts advise on and help steer the program by fine-tuning our academic curriculum with much-needed timely knowledge on the actual needs of the industry. A list of the members of the Industrial Advisory Board is available below.

Advisory Board

Professor **Vesa Välimäki**, Aalto University, Finland
Professor **Ahmet Kondoz**, Loughborough University, UK
Professor **Fionn Murtagh**, Goldsmiths University of London, UK
Professor **Zoran Cvetkovic**, King's College London, UK
Professor **Julius O Smith**, Stanford University, USA
Professor **Alberto Borghese**, University of Milan, Italy

Selected M.S. Theses

- Introducing Rolling Axis Into Motion Controlled Gameplay as a New Degree of Freedom Using Microsoft Kinect, Evren Can Bozgeyikli (2012)
- Introducing Tangible Objects Into Motion Controlled Gameplay Using Microsoft Kinect, Lal Gamze Bozgeyikli (2012)
- Visibility Grid Method for Efficient Crowd Rendering with Shadows, Serdar Koçdemir (2013)
- Modeling Student Behaviors in a Virtual Classroom Using Belief Desire Intention Model, Emre Canbazoğlu (2014)
- Short-term Modification of Sleep-Wake Habits by Gamification: A User Study, Ayşe Ezgi Keser (2015)
- Deferred Shading ofvTransparent Surfaces With Shadows And Refraction, Ali Deniz Aladağlı (2015)
- Data-Driver and Anisotropic Tearing for Cloth Simulation, Mustafa Mert Karaöz (2015)
- Context Based Dynamic Content Generation, Introducing a New Approach and a Framework, Burkay Özdemir (2015)
- Improvement and Analysis of TressFX Real-Time Hair Simulation Framework, Deniz Uğurca (2015)
- Modeling Student Behaviors in a Virtual Classroom with Incorporation of Social Learning Theory Into
- Belief-Desire-Intention Model, Cenk Köknar (2015)
  An Ontology Based Approach to Design a Serious Game for Teacher Education, Sanam Dehghan (2015)
- Mephisto: A Source to Source Transpiler from Pure Data to Faust, Abdullah Demir (2015)
- Time Pressure as Video Game Design Element and Basic Need Satisfaction, Irem Gökçe Yıldırım (2015)
- Computational Aesthetics Using Machine Learning for Video Game Camera Direction, Ali Naci Erdem (2015)
- Generalised Audio Synthesis Algorithm for Simulating Firearm Sounds and Supersonic/Subsonic Projectiles, Teksin Saka (2015)
- Perceptual Audio Source Culling for Virtual Environments, Ali Can Metan (2016)
- A Novel Broad-phase Continuous-time Collission Detection Algorithm, Tarık Kaya (2016)

Admission Requirements

- Min. requirements: ALES 75, GPA 2.5, METU EPE 65.
- 50% (ALES) + 20% (B.Sc. CGPA) + 30% Interview.
- Two recommendation letters.
- Letter of intent. The applicants have to state their choice of track (MMI-M or MMI-G) in their letter of intent.
- Turkish citizens' applications are evaluated according to ALES exam score. The GRE-ALES equivalence is computed by the Graduate School of Informatics.
- Applicants who do not attend the interviews will not be considered for admission. Foreign applicants who are not resident in Turkey can attend the interview via teleconferencing subject to approval by the department academic board.
- The communication during the admissions process is via e-mail. The applicants are thus strongly advised to check the e-mail account they provide during the application.