HUman MAchine INteraction (HUMAIN) Lab, Expertise

by

Dr. Vassilis G. Kaburlasos, HUMAIN-Lab Director

An introduction of myself

● Bachelor Diploma Degree in Electrical Engineering, National Technical University of Athens, Greece, 1986.

● Master of Science, University of Nevada, Reno, USA, 1989.

● Doctor of Philosophy, University of Nevada, Reno, USA, 1992.

● Research Associate, Dept. Electrical and Computer Engineering, Aristotle University of Thessaloniki, Greece, 1994 – 2002.

● Dept. Computer and Informatics Engineering, Eastern Macedonia and Thrace Institute of Technology (EMaTTech), Kavala, Greece ,2002 – today.

● International Hellenic University, 2019 – ?

(An introduction of myself)

● Education partly Greek (…) and partly American (…).

● Education formed by the French Enlightment and English Empiricism.

● After a constructive, long collaboration with Greeks, Italians, Germans, English and Americans lately I also seek collaborators in the Balkans as well as in Asia.

● I see the Balkans as Europe's bridge to Asia.

Personal Motto: Collaborate or perish.

The HUMAIN-Lab has been established in EMaTTech (Eastern Macedonia &Thrace Institute of Technology) under the Greek Law in March 2016.

http://humain-lab.teiemt.gr/

HUMAIN-Lab facilities

The HUMAIN-Lab is organized in three divisions:

#1. Computational Intelligence (V. Kaburlasos)
#2. Visual Computing (G. Papakostas)
#3. Robotics (Th. Pachidis)

Staff

3 tenured faculty members
2 tenured technicians
10 employees on contract

Interest is in intelligence modeling and applications.

Don't do more and/or faster of what you are already doing. Instead, find a new starting point.
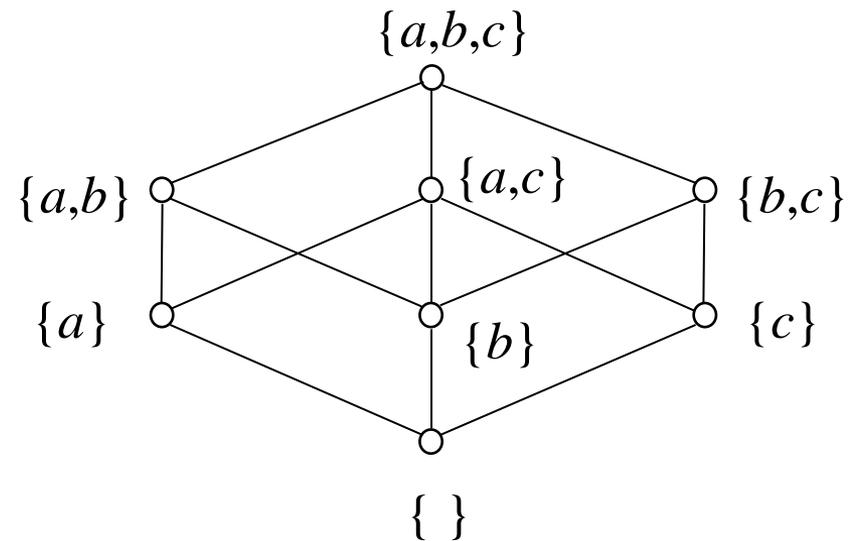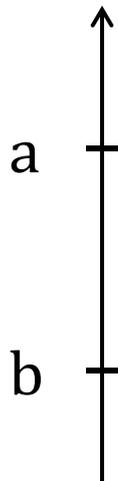
Pythagoras (ΠΥΘΑΓΟΡΑΣ):
Everything boils down to numbers

Real number emerge from measurements. (Lord Kelvin, Sir Isaac Newton, Albert Einstein)

When humans are involved, non-numerical data emerge.

Specific application interests include intelligent machine applications in:

1. Social Robots.
2. Precision Farming.
3. Physical Environment Patrol.

…

HUMAIN-Lab Project Participation

1. SNF, EMaTTech Grant (Total budget: €900,000.00)
2. CybSPEED (Total budget: € 1,286,000.00)
3. RONNI (Total budget: €99,009.24)
4. SRTSE (Total budget: €970,078.15)
5. POGHAR (Total budget: €997,292.70)

Bigger budgets seem to call for multi-displinary work.

Some project details follow …

1. SNF, EMaTTech Grant (Total budget: €900,000.00)

Project title: Program of scholarships to 15 promising young scientists (in Greek)

Coordinator: Professor Athanasios Mitropoulos, Dean of EMaTTech

Funded from: The Stavros Niarchos Foundation (SNF)

Subproject title: Special Education Robot Teaching Assistant (EduBot)

Budget (HUMAIN-Lab): €60,000.00

Supervisor: Prof. Vassilis Kaburlasos

Start - end dates: 1 October 2016 - 30 September 2018

(Robot games in Special Education)

A. Amanatiadis, V.G. Kaburlasos, Ch. Dardani, S.A. Chatzichristofis, A. Mitropoulos, "Social robots in special education: creating dynamic interactions for optimal experience", *IEEE Consumer Electronics Magazine*, (to be published)

2. CybSPEED (Total budget: €1,286,000.00)

Project title: Cyber Physical Systems for PEdagogical Rehabilitation in Special EDucation (CybSPEED)

Coordinator: Prof. Manuel Graña, Univ. Basque Country, San Sebastian, Spain

Funded from: European Commission Horizon 2020, H2020-MSCA-RISE-2017

EMaTTech (HUMAIN-Lab) budget: €283,500.00

Participant coordinator: Prof. Vassilis Kaburlasos

Start - end dates: 1 December 2017 – 30 November 2021

(A networking project)

With the participation of 11 Institutions (8 from Europe and 3 from abroad)

- 2 from Spain: (a) UPV/EHU (Universidad del Pais Vasco /Euskal Herriko Unibertsitatea), (b) CVC (Centro de Vision por Computador).

- 2 from France: (a) CHU (Centre Hospitalier Universitaire de Grenoble) (b) UGA (Universite Grenoble Alpes).

- 2 from Bulgaria: (a) IR-BAS (Institut Po Robotika), (b) Teatar Tsvete.

- 2 from Greece: (a) EMaTTech, (b) Praxis.

- 1 from Japan: Kyutech (Kokuritsu Daigaku Hojin Kyushu Kogyo Daigaku).

- 1 from Morocco: UH2C (Universite Hassan II de Casablanca).

- 1 from Chile: CEINE-lab (Universidad de Chile, Santiago).

3. RONNI (Total budget: €99,009.24)

Project title: Increasing the well being of the population by RObotic and ICT based iNNovative educatIon (RONNI)

Coordinator: Assoc. Prof. Snezhana Kostova, IR-BAS, Bulgaria

Budget: €99,009.24

Funded from: EU Danube Strategic Project Fund (DSPF), Interreg Danube Transnational Programme

EMaTTech (HUMAIN-Lab) budget budget: €34,133.00

Participant coordinator: Prof. Vassilis Kaburlasos

Start - end dates: 1 January 2018 – 31 December 2018

4. SRTSE (Total budget: €970,078.15)

Project title: Social Robots as Tools in Special Education (SRTSE)

Coordinator & Principal Investigator: Prof. Vassilis Kaburlasos

Funded from: Action "RESEARCH – DEVELOP - INNOVATE", Operational Programme "Competitiveness, Entrepreneurship and Innovation", NSRF (National Strategic Reference Framework) of Greece 2014-2020
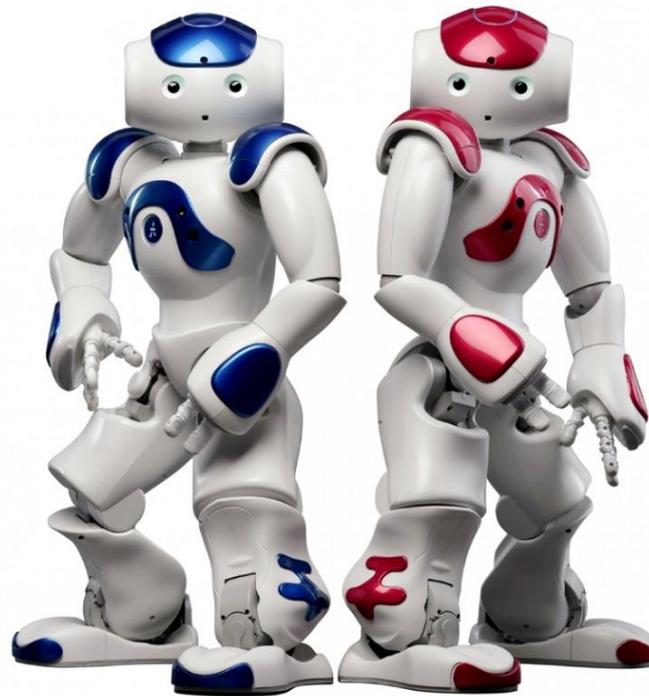
Consortium Partners: 2 from Academia + 3 from Industry

HUMAIN-Lab Budget: €328.517,64

Start - end dates: 28 June 2018 – 27 February 2021

(Develop Special Education scenarios to be delivered via Social Robots)

Current project status: Procurement of equipment, personnel employment, ethical issues, experiment design.

5. POGHAR (Total budget: €997,292.70)

Project title: Personalized Optimal Grape Harvest by Autonomous Robot (POGHAR)

Coordinator & Principal Investigator: Prof. Vassilis Kaburlasos

Funded from: Action "RESEARCH – DEVELOP - INNOVATE", Operational Programme "Competitiveness, Entrepreneurship and Innovation", NSRF (National Strategic Reference Framework) of Greece 2014-2020

Consortium Partners: 2 from Academia + 4 from Industry

HUMAIN-Lab Budget: €554,810.02

Start - end dates: 28 June 2018 – 27 February 2021

(Develop an Autonomous Robot Grape Harvester)

Current project status: Procurement of equipment, personnel employment, development design.

Thank you for your attention !