

UiO • **Department of Informatics**
University of Oslo

Robots and Mobile Apps Solving Problems Better with Artificial Intelligence











Jim Torresen

Research group Robotics and Intelligent Systems
(ROBIN)



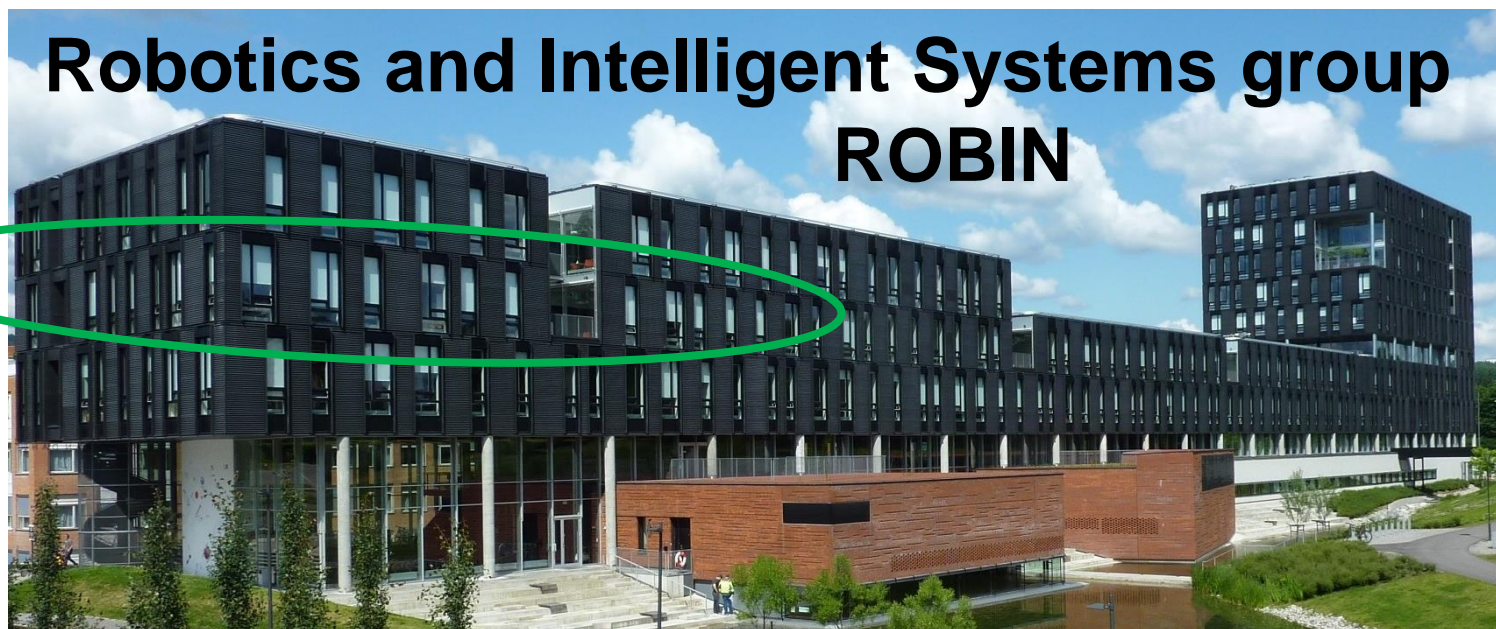
Faculty of Mathematics and Natural Sciences University of Oslo

Many departments have research and education containing artificial intelligence/machine learning/data science

 Department of Biosciences	 School of Pharmacy	 Department of Geosciences	 Department of Mathematics	 Department of Chemistry	 Department of Physics	 Department of Informatics	 Institute of Theoretical Astrophysics	 Department of Technology Systems	 Norwegian Centre for Science Education
Centre for Ecological and Evolutionary Synthesis (CEES)	Centre for Bioinformatics	Centre for Earth Evolution and Dynamics (CEED)	The NJORD Center	Centre for Material Sciences and Nanotechnology (SMN)	Centre for Computing in Science Education (CCSE) SFU	Centre for Scalable Data Access (SIRIUS) SFI	Roseland Centre for Solar Physics (RoCS) SFF	Hylleraas Centre for Quantum Molecular Sciences SFF	
				Centre for Teaching and Learning in Science and Technology (KURT)	Centre for Biogeochemistry of the Anthropocen (CBA)				

**Department of Informatics
University of Oslo**

**Robotics and Intelligent Systems group
ROBIN**



Other research groups at our department do AI/ML research within techniques for analysis of biological data, images, text and more



Robotics and Intelligent Systems (ROBIN)

<http://www.mn.uio.no/ifi/english/research/groups/robin>



Jim Tørresen
Professor, Group leader



Mats Høvin
Assoc. Prof.



Kyrre Glette
Assoc. Prof.



Kristian Nymoen
Assoc. Prof.
(shared with music dep)



Yngve Hafting
Ass. Prof.



Vegard D Søyseth
Principal Engineer

Postdocs:

Charles Martin

Kazi SN. Ripon

Kai Olav Ellefsen

Md. Zia Uddin

Weria Khaksar



Adjunct positions (20%):

Alexander Wold (assoc.prof.)

Ole Jakob Elle (Prof.)

Roar Skogstrøm (lecturer)

Ståle Skogstad (assoc.prof.)

PhD students:

Arash Ahmadi (MedFak)

Asbjørn Danielsen (UiT)

Eivind Samuelsen

Farzan Noori

Flavia Dias Casagrande (HIOA)

Julian Fuhrer

Justinas Miseikis

Jørgen Nordmoen

Sondre Engebråten (FFI)

Tønnes Nygaard

Benedikte Wallace

Students Bachelor ~180; Master: ~45
Robotics and Intelligent Systems program

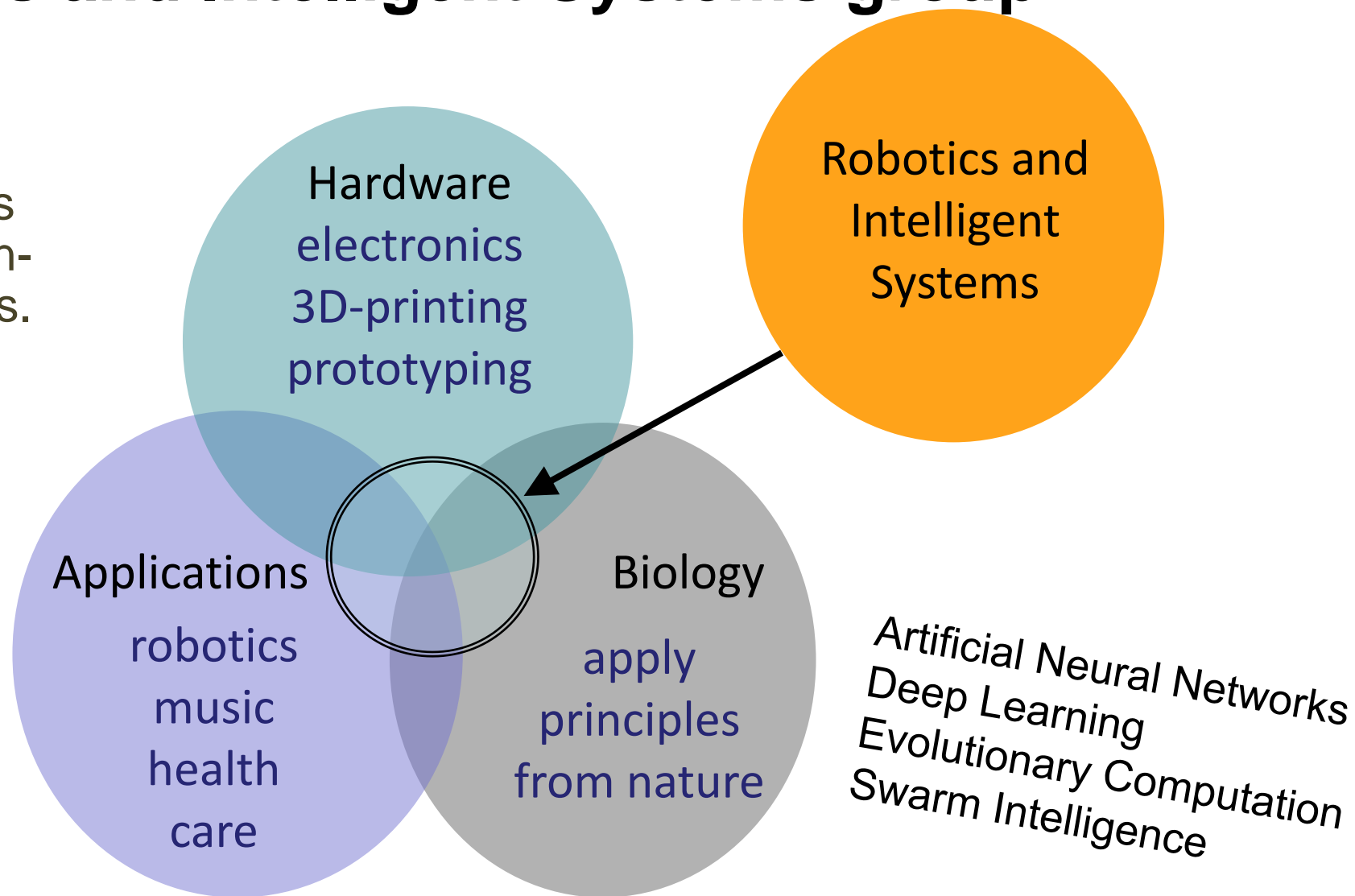
Students hired on hourly basis

Visiting researchers

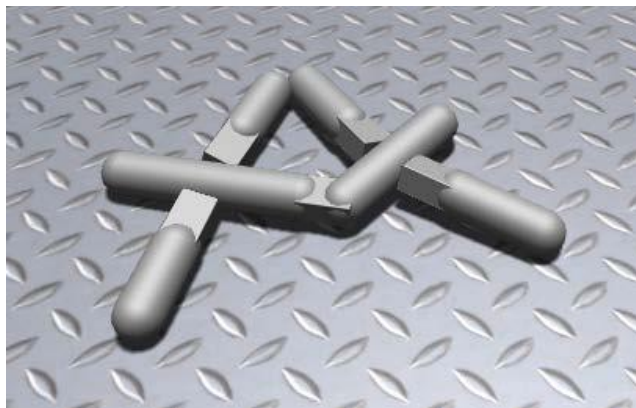
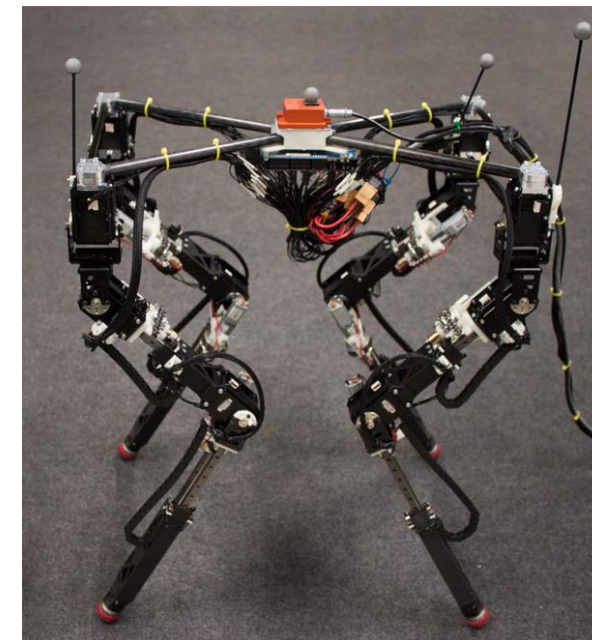
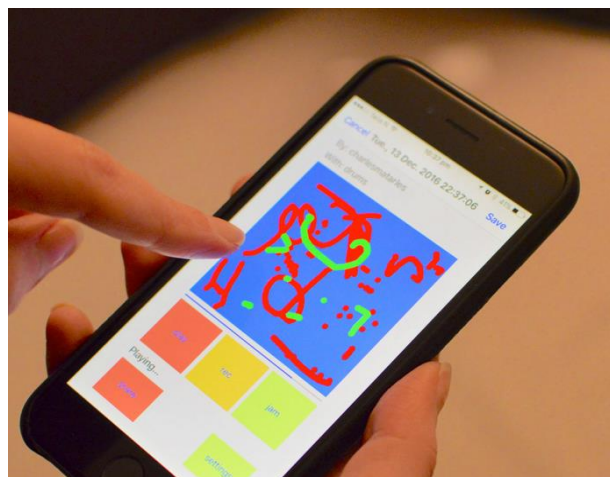
Robotics and Intelligent Systems group

ROBIN

Creating systems
for demanding run-
time environments.



Robotics and Intelligent Systems research



INTROMAT: INtroducing personalized TReatment Of Mental health problems using Adaptive Technology (2016-2021)

Research Council of Norway grant 259293



Goal: Increase access to **mental health** services for common mental health problems by developing **smartphone technology** which can **guide patients**.

<http://intromat.no>

Project Manager:

Haukeland Univ. Hospital, Bergen

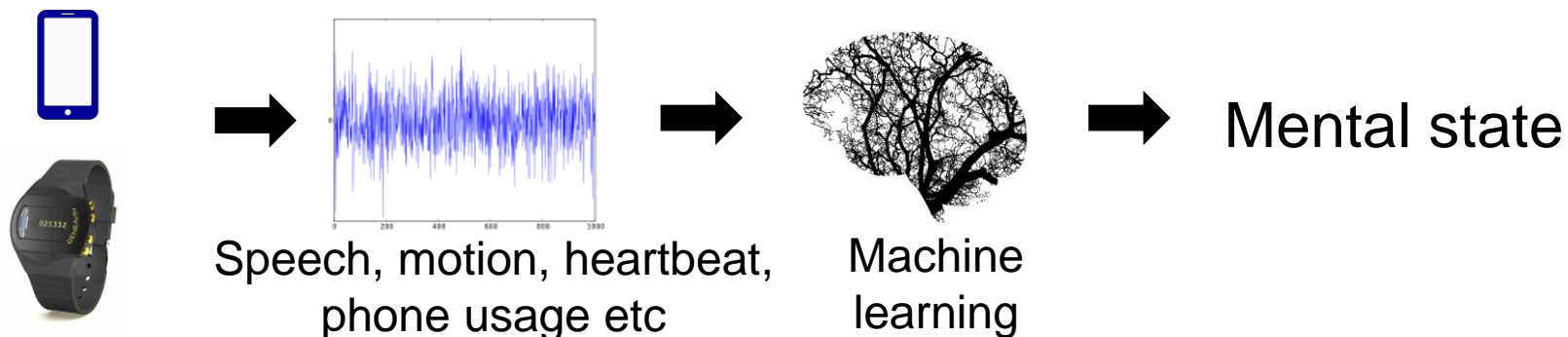
Funding: *IKTPLUS Lighthouse,
Research Council of Norway*



**The Research Council
of Norway**

Mental health monitoring (INTROMAT)

- Analysis of sensor and behavioral data with machine learning.
- Mental states prediction for bipolar, anxiety and attention-deficit/hyperactivity disorders.
- Use of smartphones, wristwatches and virtual reality devices to monitor users' behavior.
- Adapt clinical follow up and activate automatic treatments when needed.

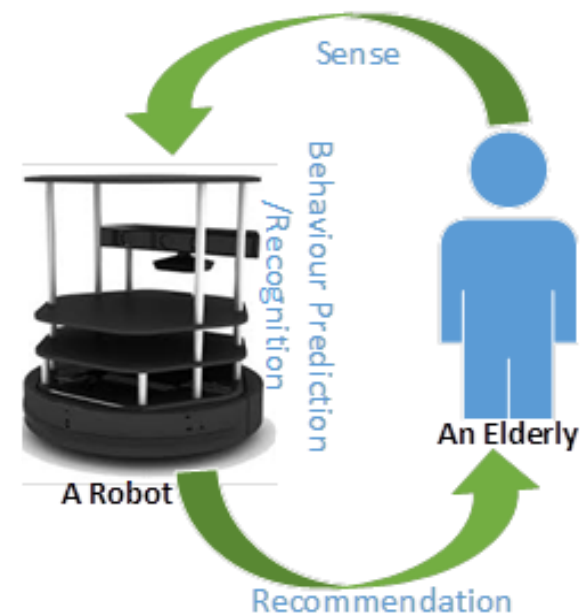




MECS: Multi-sensor Elderly Care Systems

Research Council of Norway grant 247697

Goal: Create and evaluate multimodal mobile human supportive systems that are able to **sense, learn and predict** future events.



Funding: *FRINATEK*
Research Council of Norway



The Research Council
of Norway

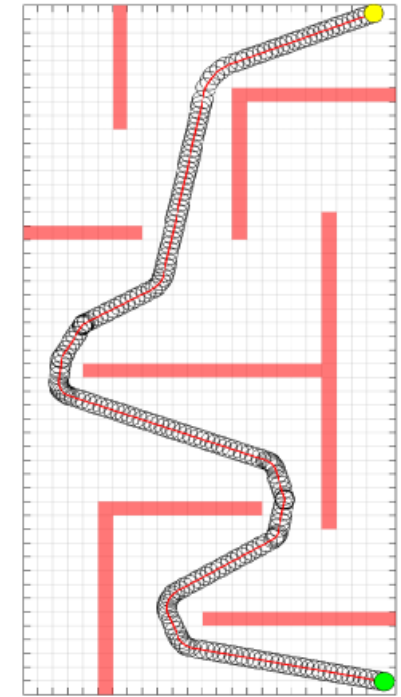
MECS Research



Trenton Schulz



User needs and preferences



Robot sensing

Robot control



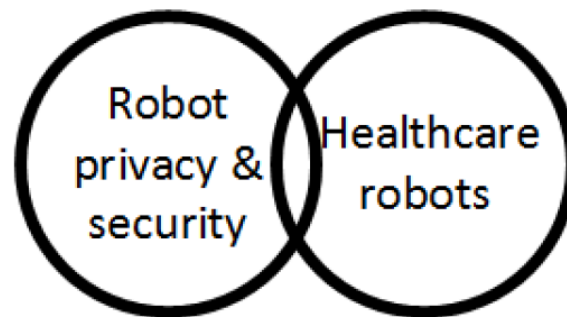
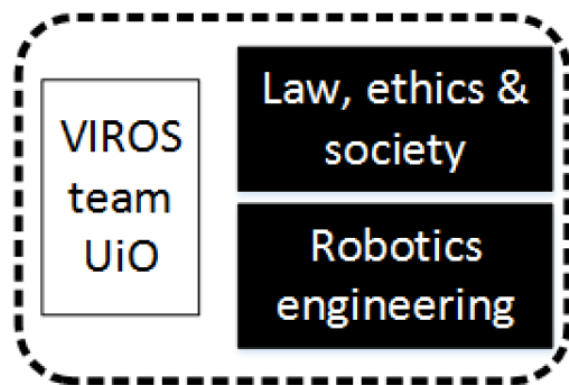
Md. Zia Uddin



Weria Khaksar

VIROS: Vulnerability in the Robot Society (2019-2023)

Research Council of Norway grant 288285



Dep. of Private Law +
Dep. of Informatics
and other
depts/partners

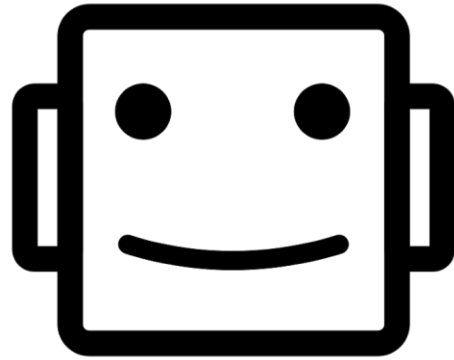
Goal:

1. **Develop knowledge about robot design and regulation**, to reduce digital vulnerabilities related to the increasing use of robots in our society. **Focus on privacy, security and safety**, particularly in healthcare contexts.
2. **Develop technology and proposals for regulatory measures** to reduce vulnerabilities regarding robotics.

Funding: *IKTPLUS, Research Council of Norway*



**The Research Council
of Norway**



ICDL-EPIROB 2019 Oslo, Norway

**9th Joint IEEE International Conference on
Development and Learning and on Epigenetic Robotics
19-22 August 2019, Oslo, Norway**

Web page: <https://icdlepirob2019.wordpress.com>

Call for 2p poster abstracts – Deadline 14 April



Questions or Interested?

Make contact: jimtoer@ifi.uio.no