



Automation & Applied Informatics

Bachelor of Science Programme (English)

Faculty of Automation and Computer Science
Technical University of Cluj-Napoca

Program Overview

The **Automation and Applied Informatics** program is designed to train engineers capable of designing, implementing, and managing complex control systems. Taught entirely in English, it opens doors to the global engineering market.

- **Duration:** 4 Years (Full-time)
- **Credits:** 240 ECTS
- **Degree:** Bachelor of Science (Engineer)
- **Language:** English



The Foundation (Years 1 & 2)

Year 1: Fundamentals

- Mathematical Analysis & Algebra
- Computer Programming & Algorithms
- Physics & Chemistry
- Computer Architecture
- Linear Electronic Circuits

Year 2: Core Engineering

- Systems Theory (Control Basics)
- Digital Electronics
- Object-Oriented Programming
- Numerical Methods
- Data Structures & Algorithms

Specialization (Years 3 & 4)

Year 3: Advanced Concepts

- Control Engineering
- Microprocessor Systems
- Database Design
- Artificial Intelligence
- Software Engineering

Year 4: Integration

- Robotics & Robot Control
- Real-Time Systems
- Distributed Control Systems
- Project Management
- Bachelor Thesis Project

Practical Engineering

Hands-on Learning

The curriculum places a massive emphasis on practical application. From programming microcontrollers to tuning PID loops on industrial equipment, students gain real-world skills.

Key Activities:

- Laboratory work for every technical course.
- Summer internships (compulsory 12 weeks).
- Final year project involving hardware/software design.



Why Choose This Program?



Global Vision

Studying in English prepares you for international careers and multinational companies.



Modern Tech

Access to state-of-the-art labs: Robotics, Process Control, and Industrial IoT.



Recognition

The diploma is recognized throughout the European Union and internationally.

Career Opportunities

A Versatile Degree

Graduates are highly sought after in various sectors due to their dual competence in Software and Hardware/Control.

- **Automation Engineer:** Design control systems for factories (BMW, Bosch, Emerson).
- **Software Developer:** Backend, Embedded, or Full-stack development.
- **Systems Analyst:** Integrating complex IT and OT systems.
- **R&D Engineer:** Working on autonomous vehicles and smart grids.



Student Life in Cluj-Napoca



The Silicon Valley of Transylvania

Cluj-Napoca is not just a university city; it's a tech hub.

- **Vibrant Community:** Over 100,000 students live in the city.
- **Tech Ecosystem:** Hundreds of IT and Engineering companies offering internships.
- **Events:** Home to UNTOLD, Electric Castle, and numerous tech meetups.
- **Cost of Living:** Affordable compared to Western Europe.

Admission & Prerequisites

Requirements

Admission is based on high school performance and a mathematics competency exam.

- Baccalaureate Diploma (or equivalent).
- English Proficiency (B2 level minimum).
- Strong background in Mathematics and Physics.

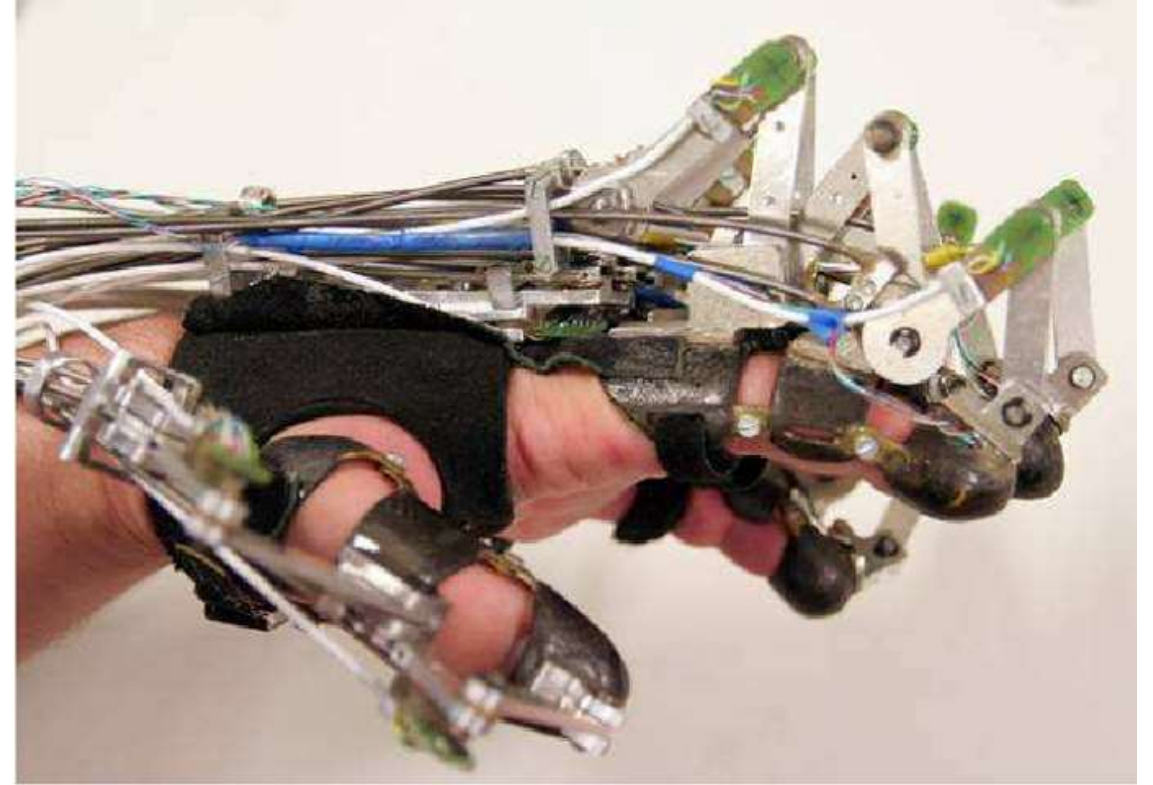
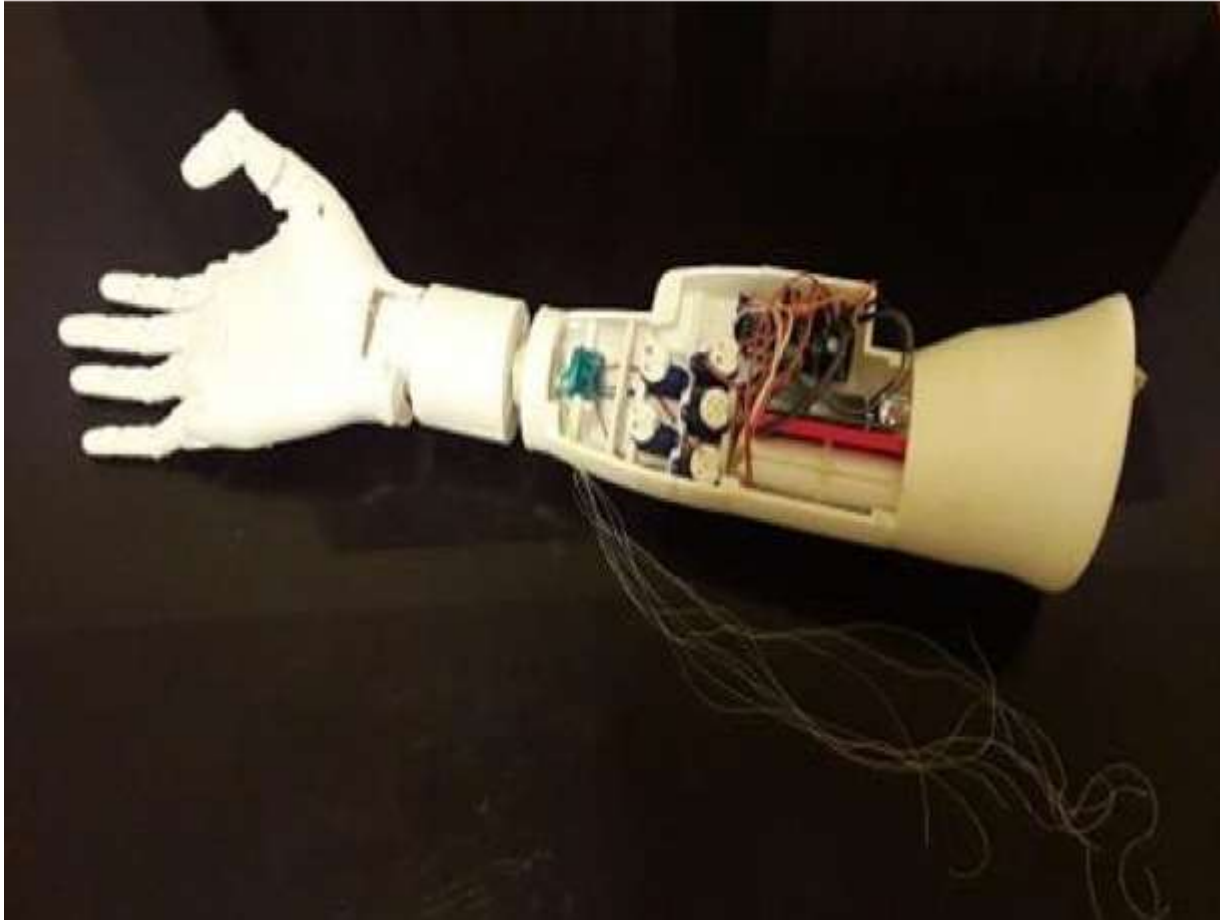
Timeline

July Session: Main admission period.

September Session: For remaining places.

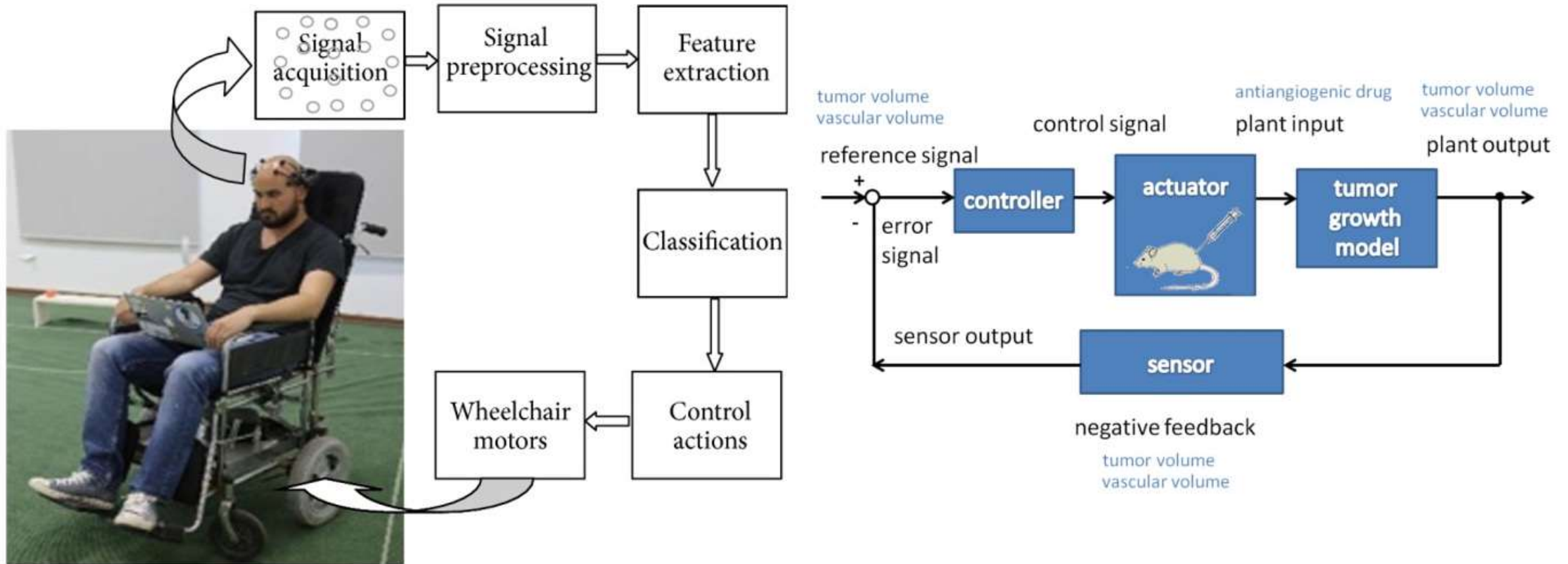
Check the official AC.UTCLUJ.RO website for exact dates and fees.

Projects - Bachelor's Degree



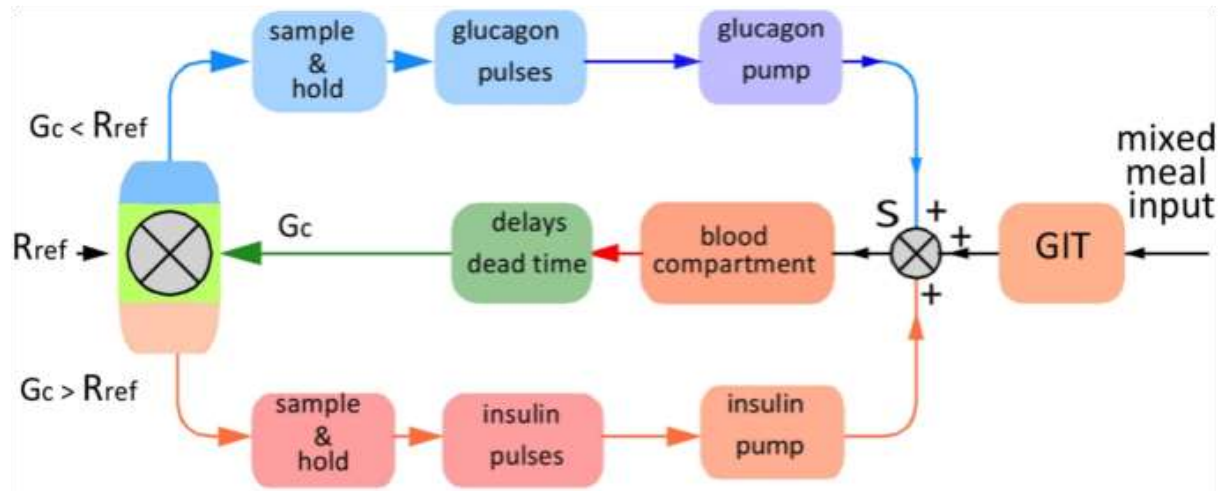
Medical applications of control systems

Projects - Bachelor's Degree



Medical applications of control systems

Projects - Bachelor's Degree



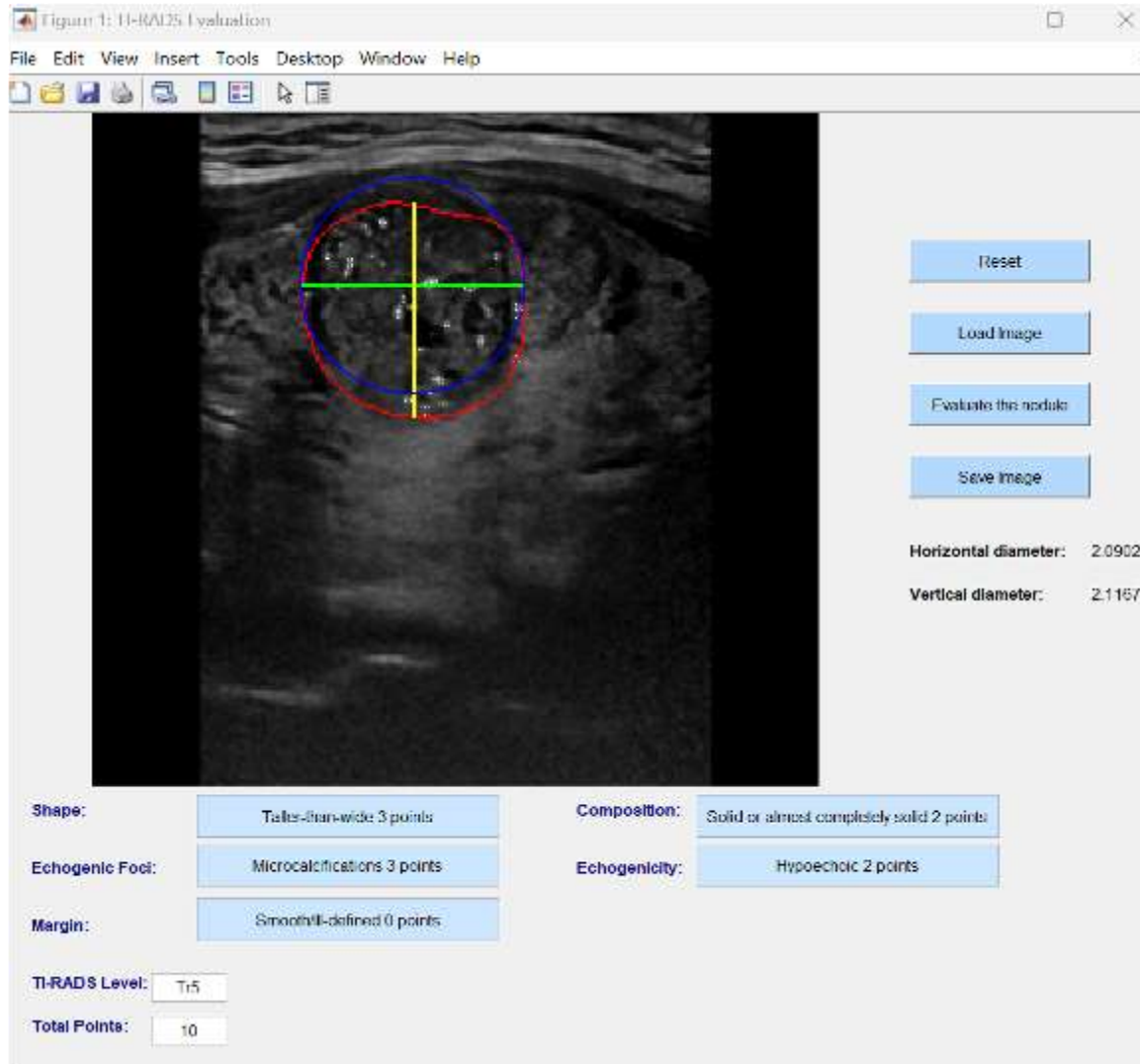
**Medical applications
of control systems**



Projects - Bachelor's Degree

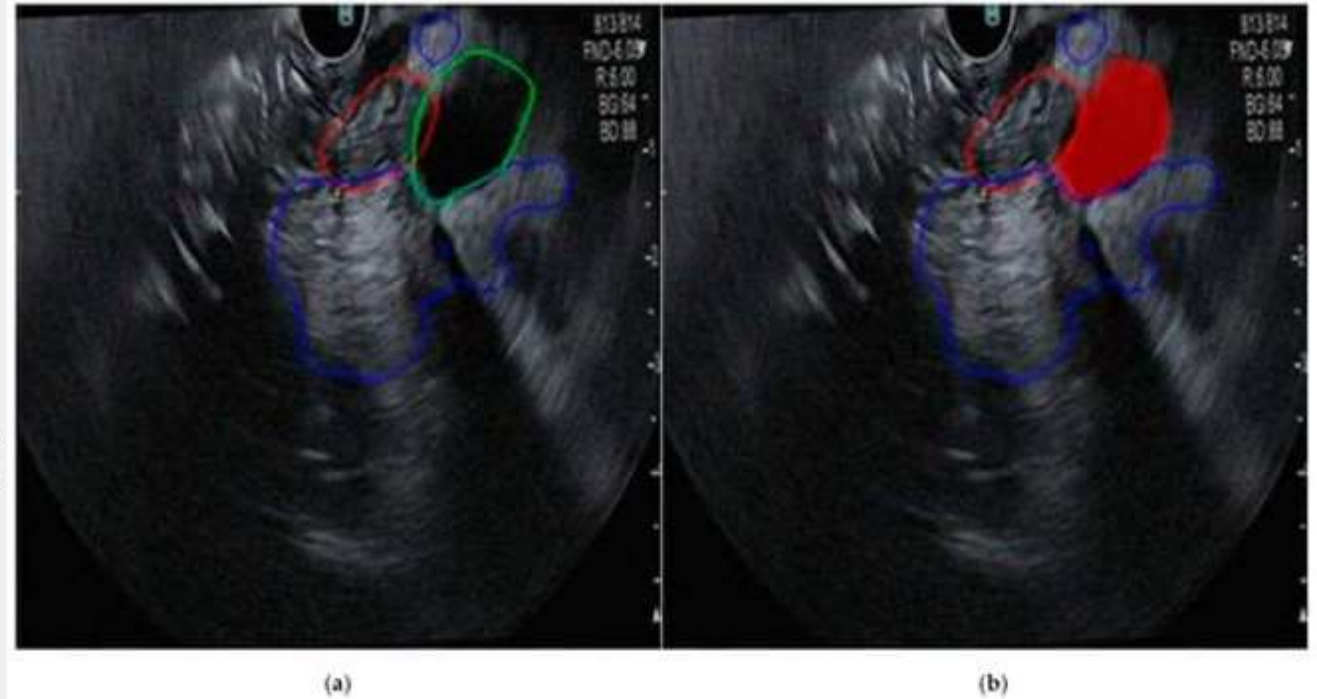
Figure 1: TI-RADS Evaluation

File Edit View Insert Tools Desktop Window Help



Horizontal diameter: 2.0902
Vertical diameter: 2.1167

Shape: Taller-than-wide 3 points
Composition: Solid or almost completely solid 2 points
Echogenic Foci: Microcalcifications 3 points
Echogenicity: Hypoechoic 2 points
Margin: Smooth/ill-defined 0 points
TI-RADS Level: T15
Total Points: 10



Medical applications
of control systems

Projects - Bachelor's Degree



Mobile robotics applications

Questions?

Thank you for your attention.

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<https://ac.utcluj.ro>

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