VISION Research Group

Vision Research Group

COMPUTER VISION RESEARCH GROUP

Prof. Dr. Songül Varlı

Yildiz Technical University, Computer Engineering

TÜRKİYE

http://vision.yildiz.edu.tr

svarli@yildiz.edu.tr

Scan to Content

YTU Vision

The research group that transforms healthcare technologies through AI-driven image processing, develops innovative projects with an interdisciplinary perspective, and delivers real-world impact.

Vision Research Group

AI in Medical Imaging →	We specialize in AI-driven analysis of radiological and pathological data, enabling faster, more accurate diagnoses.
Clinical Intelligence & Personalized Care →	Our models assist clinicians in diagnostic decision-making, improving patient-specific outcomes.
Multimodal & Explainable AI →	We build trustworthy AI systems by integrating multimodal biomedical data and ensuring model transparency.
Collaboration & Horizon Europe →	We are open to strategic partnerships within the Horizon Europe framework to shape the future of AI in healthcare.

Team

Prof. Dr. Songül Varlı

Head of Group
Computer Engineering

A multidisciplinary team combining expertise in engineering, medicine, and data science to develop innovative, data-driven solutions in healthcare technology through collaborative research.

- *Vision Research Group*

Prof. Dr. Ilknur Turkmen
Pathologist

Prof. Dr. Ovgu Aydin Ulgen
Pathologist

Assoc. Prof. Dr. Turkan Ikizceli
Radiologist

Asst. Prof. Dr. A. Mine Onenerk Men
Pathologist

Asst. Prof. Dr. Nurullah Calik
Biomedical Engineering

Dr. Yasemin Topuz
Computer Engineering

Salih Butuner
PhD. Student

Serdar Yildiz
PhD. Student

Tugba Gunaydin
PhD. Student

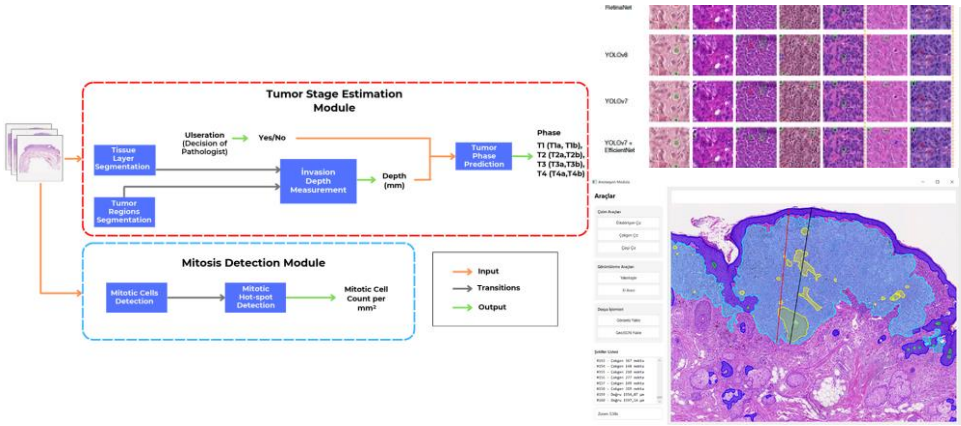
Hasan Saitoglu
MSc. Student

Havvanur Dogdu
MSc. Student

M. Taha Gokcan
MSc. Student

AI Solutions

AI Solutions in Digital Pathology



Overview

Our project introduces an innovative SaMD solution that boosts efficiency, accelerates pathology workflows, and delivers more precise diagnostic insights.

AI solutions in Radiomics

Overview

- Our AI-driven radiomics solutions lead the way in precision diagnostics and personalized treatment through automated imaging feature extraction.
- We build powerful predictive models by integrating imaging, clinical, and molecular data.

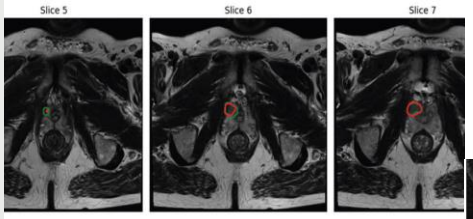
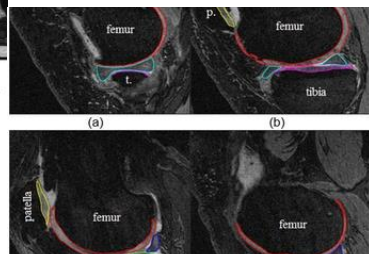


Illustration of Lesion Detection results. Predicted lesion (*red*) and Ground truth lesion (*green*).



Expertise & Opportunities

Vision Research Group

Core Competencies and Technical Expertise

- Medical Imaging and Artificial Intelligence
- AI Solutions for Digital Pathology
- Radiomics and Imaging Biomarker Discovery
- AI-based Medical Software Development (SaMD)
- Explainable Artificial Intelligence (XAI)

Collaboration Opportunities and Partnerships

- Readiness for Horizon Europe and Similar Frameworks
- Contributions to Regulatory-Compliant SaMD Projects
- Partnerships in Multimodal Healthcare Projects
- Technology Provider Role in Digital Health Initiatives
- Academic Collaborations and Research Mobility

VISION
Research Group

THANK YOU

Prof. Dr. Songül Varlı

Yildiz Technical University, Computer Engineering

TÜRKİYE

http://vision.yildiz.edu.tr

svarli@yildiz.edu.tr

Scan to Content