

# 6a.002.TUT - Monitoring & Advance Warning for Cardiac Arrhythmia Using PCG & ECG

## Year 6 - Deep Dive Video

Video is not available.

## Project Description

Auscultation of heart, besides the advanced heart diagnostic methods, continues to play an important role. The high correlation between phonocardiographic events and the characteristics of the hemodynamic affirm the heart sound crucial role in outpatient monitoring. In this project, we focus deliberately on the anomaly detection of heart sounds by using 1D Convolutional Neural Networks (CNN) trained with a novel data purification approach. The experimental results over the PhysioNet (CinC) Challenge 2016 benchmark dataset show that the proposed approach achieves high detection performance and a real-time processing ability under the condition that a reasonable signal quality (SNR) is present.

## Project Team

Team Member	Role	Email	Phone Number	Academic Sites/Industry Members
Moncef Gabbouj	PI	moncef.gabbouj@tuni.fi	+358 (400) 736613	TUT
Serkan Kiranyaz	Co-PI	Serkan.kiranyaz@tut.fi	Not available	TUT
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## Project Deliverables

	Deliverable
1.	Realization of the capabilities of the PCG/ECG signals in early detection of heart anomalies.
2.	Design the state of the art classification method (Normal vs. Abnormal) for the PCG dataset.
3.	Design the state of the art classification method (Normal, AF, other rhythms, and too noisy) for the ECG dataset.
4.	Modeling the common cause of "degradation system" for advance warning.

## Project Documents

For viewing/editing options, please click left arrow next to document name.

You will see different options depending on your access level.

## Attention Project PIs

PIs are responsible for keeping up the content of their project page and have the ability to EDIT the page.

- To **EDIT**, click the edit "pencil icon" in the top right-hand corner of this page
- To **PUBLISH** your changes, click the blue "Publish" button in the lower right-hand corner of this page
- If you need help or have questions, please contact Site Admin: Sally.Johnson@louisiana.edu

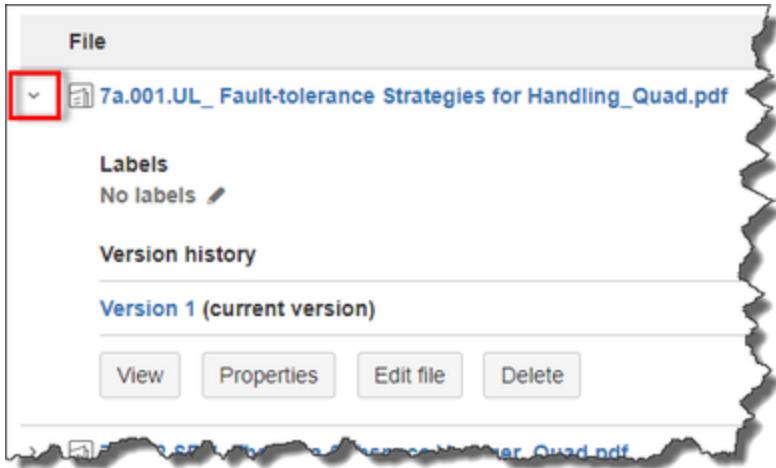
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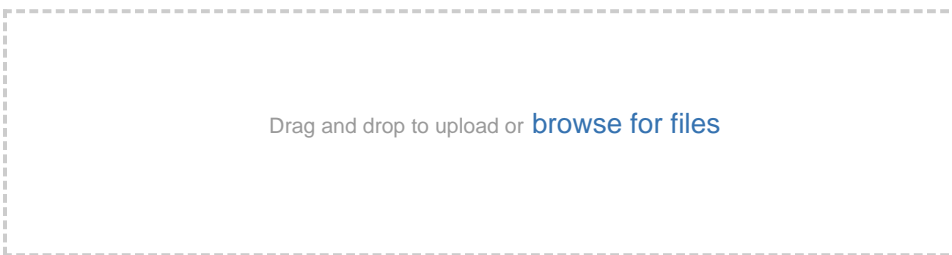
## Spaces

- All Spaces

	CVDI 2017 IAB Fall Meeting		+	★ ☆
	CVDI 2018 IAB Fall Meeting		+	★ ☆
	CVDI 2018 IAB Spring Meeting		+	★ ☆
	CVDI 2019 IAB Fall Meeting		+	★ ☆
	CVDI 2019 IAB Spring Meeting		+	★ ☆
	CVDI Calendar		+	★ ☆
	CVDI Leadership (All Sites)		+	★ ☆



File	Modified
>  6a.002.TUT_Poster_PDF.pdf	Oct 11, 2017 by Sally Johnson
>  6a.002.TUT_Poster_PPT.pptx	Oct 11, 2017 by Sally Johnson
>  6a.002.TUT_PPT Presentation.pptx	Oct 11, 2017 by Sally Johnson
>  6a.002.TUT_Executive Summary.pdf	Oct 11, 2017 by Sally Johnson
>  11-10-2017 11-28-32 AM.png	Nov 10, 2017 by Sally Johnson
>  6a.002.TUT_Monitoring and Advance Warning for Cardiac_Poster_2017 Fall Meeting.pptx	Nov 13, 2017 by Sally Johnson
>  6a.002.TUT_CVDI Mid-Year-Report.pdf	Jan 05, 2018 by Sally Johnson
>  6a.002.TUT Final report.docx	Jul 31, 2018 by Sally Johnson



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### Project Comments

- CVDI Marketing Materials +

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- CVDI Reports & Document Library +

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- CVDI SITE (Tampere University) +

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- CVDI SITE (University of Louisiana at Lafayette) +

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- CVDI SITE (University of North Carolina at Charlotte) +

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- CVDI SITE (University of Virginia) +

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- IAB - Industry Advisory Board +

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- Year 6 - Funded Projects (7/1/17 - 6/30/18) +

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- Year 7 - Funded Projects (7/1/18 - 6/30/19) +

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- Year 8 - Proposed Projects +

