




# DR. FANGNING HU

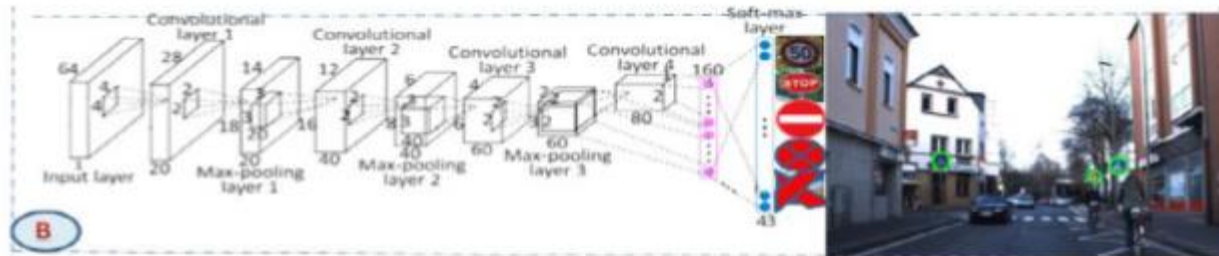
UNIVERSITY LECTURER IN ELECTRICAL AND COMPUTER ENGINEERING

## THESIS TOPICS

PERSONAL PHOTO	ON GOING PROJECTS	EXAMPLE THESIS/PROJECTS					
	<ul style="list-style-type: none"> <li>▪ Gesture/Motion Detection (1,3)</li> <li>▪ Tracking Demo System Design (1, 4)</li> <li>▪ Image Detection (3)</li> <li>▪ Digital System Design by FPGA (2)</li> </ul>	<ul style="list-style-type: none"> <li>▪ THESIS: Traffic Signs Recognition using Deep Learning and Arduino</li> <li>▪ THESIS: IoT Based Low-Cost Tracking System using GPS and GSM with Interaction with an Android Mobile APP</li> <li>▪ THESIS: Smart and Scalable Network Infrastructure for Efficient Data Routing</li> <li>▪ PROJECT: On Designing Low Power Multiplier</li> </ul>					
INTERESTS	SUPPORTING	REQUIREMENTS					
<ul style="list-style-type: none"> <li>▪ Smart Systems, IoT</li> <li>▪ Machine Learning</li> <li>▪ Digital Design by FPGA</li> </ul>	<ul style="list-style-type: none"> <li>▪ Support on missing knowledge of machine learning, neural networks</li> <li>▪ Support on missing knowledge of Arduino programming, acquiring data from sensors</li> <li>▪ Study together on Android APP development, New FPGA board setup</li> </ul>	<ul style="list-style-type: none"> <li>▪ Arduino Programming, C Programming, Basic Circuit, Sensors</li> <li>▪ Binary, Logic Gates, FlipFlops, FPGA programming</li> <li>▪ Linear Regression, Neural Networks, Programming in Python/matlab</li> <li>▪ Android APP development</li> </ul>	<table border="1"> <tr><td>1</td></tr> <tr><td>2</td></tr> <tr><td>3</td></tr> <tr><td>4</td></tr> </table>	1	2	3	4
1							
2							
3							
4							

# THESIS/PROJECT TOPICS

1. Image detection by CNN, need basic knowledge of neural network (course machine learning or get supported learning materials from me)



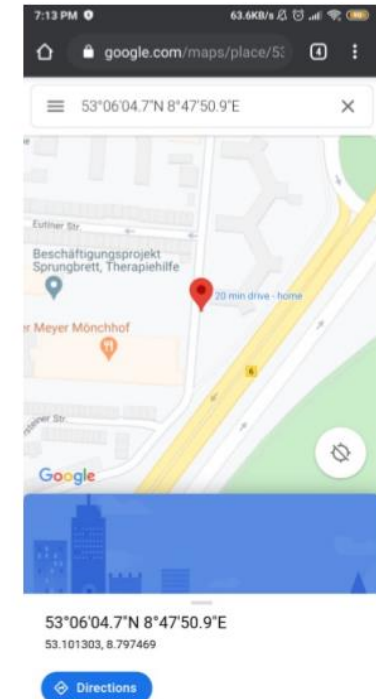
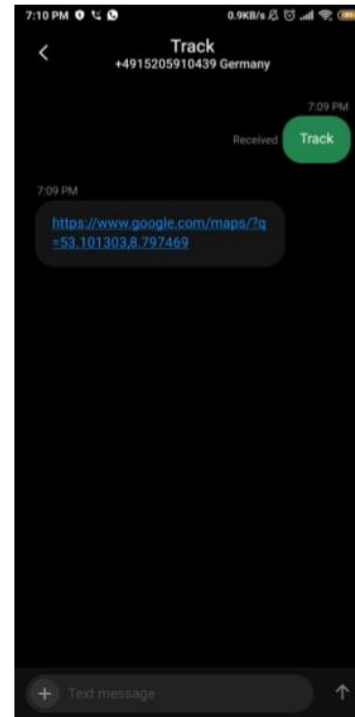
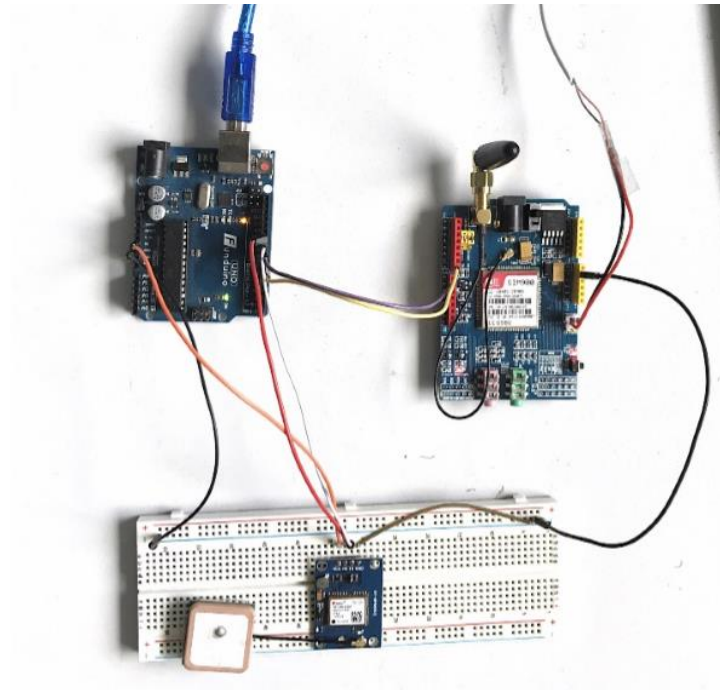
2. Gesture/Motion detection (course IMS/RIS lab 1 or get supported learning materials from me)

Example:

[https://www.youtube.com/watch?v=4tyY\\_s7ct1A&list=PLAkwiKYplaXRzVI1PHTz5s279DEM9ABwp&index=9](https://www.youtube.com/watch?v=4tyY_s7ct1A&list=PLAkwiKYplaXRzVI1PHTz5s279DEM9ABwp&index=9)

# THESIS/PROJECT TOPICS

3. Tracking system by GPS and GSM (course IMS/RIS Lab 1 and get supported learning materials from me)



# THESIS/PROJECT TOPICS

4. Low Power Multiplier Digital Design: Circuits, Gates, FlipFlops, Multiplexers  
In specialization course Digital Design, can take it as 2nd year students

