

**GEDIZ UNIVERSITY**  
**COMPUTER ENGINEERING DEPARTMENT**

**COM 497- SENIOR DESIGN PROJECT I**  
**PROPOSAL FORM for INSTRUCTORS**

Academic Year: 2015-2016

Semester: Fall

<b>1. Logistics</b>	
<b>Supervisor :</b> Asst. Prof. Dr. Ibrahim Furkan Ince <b>Proposal No. :</b> 3 <b>Proposal Date :</b> 05/10/2015 <b>Number of Students :</b> 3 <b>Prerequisites :</b> Image processing knowledge including programming skills with Java or C++.	<b>Co-supervisor:</b>
<b>2. Subject Classification</b>	
Image Processing, Computer Vision, Pattern Recognition	
<b>2. Title of Project</b>	
Camera Based Accident Recording for Building Black Box for Vehicles	
<b>3. Description of the Project <sup>1</sup></b>	
Pattern Recognition is one of the fundamental ways to understand ever so frequent traffic accidents. By having a black box like device that records potentially risky situations based on pre-determined event triggers, more data can be gained to prevent further accidents from happening.	
<b>4. Scope of the Project</b>	
Development of a device that records 3d footage by combining images from multiple lenses. Then, using image processing to detect event triggers.	
<b>5. Goals of the Project</b>	
<ul style="list-style-type: none"><li>- Students will experience a software development cycle by their team mates</li><li>- Students will experience the development of computer vision based application</li></ul>	
<b>4. Key techniques</b>	
<ul style="list-style-type: none"><li>- Creating panoramic images from 2D image sequences with different angle of views, rotation, scale and skewness by finding robust features for image registration.</li></ul>	
<b>5. Project outcome</b>	
Multiple cameras driven black box for vehicles	
<b>6. Hardware/Software/Lab/equipment requirements</b>	
<ul style="list-style-type: none"><li>- Java or C++ as the programming language</li></ul>	

<sup>1</sup> If necessary please use a separate sheet