

**EE/CpE 423/424 Engineering Design
PROJECT/ADVISOR ASSIGNMENT FORM**

**Group
Number:**
(Assigned by ECE SD
Coordinator)

Project Title	Heterogeneous Graph Library
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	Name	email
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Group Members:		
Advisor:	Dr. Narayan Ganesan	ECE [<input checked="" type="checkbox"/>] CS [<input type="checkbox"/>] PEP [<input type="checkbox"/>]
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Brief Project Description:
<p>We aim to advance the state of graph algorithm performance in two parts:</p> <ol style="list-style-type: none">1. Implement graph algorithms on heterogeneous architectures, including CPUs, GPUs and FPGAs, as part of Dr. Narayan Ganesan's research cluster. We will benchmark their performances and discern guidelines for when algorithms perform well on these new architectures.2. Partnering with MIT CSAIL, we will help develop a graph library for the Accumulo distributed database. Defining a database data structure, ingest and scan routines, and database-level computation are within scope. <p>We will link the two together by using graph data queried from Accumulo through the library, in cluster computation. The target deliverable is a library companies can use to do graph analytics on a heterogeneous architecture. Our pipeline will set a performance and design precedent for graph processing at scale.</p>