



# University of Detroit Mercy

---


Dr. Katy Snyder  
Dean, College of Engineering & Science

Dr. Shuvra Das  
Professor of Mechanical Engineering  
Director of China Programs



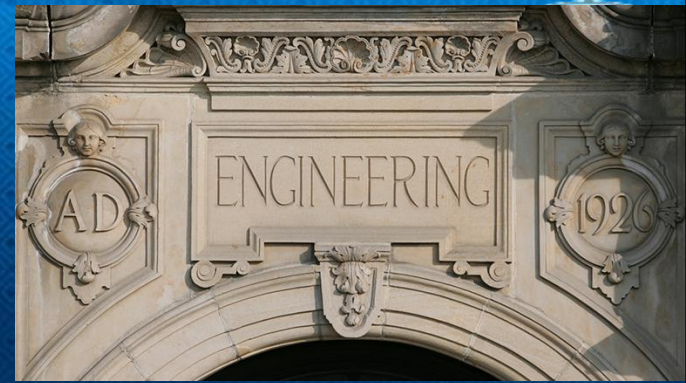
UNIVERSITY OF  
**DETROIT**  
**MERCY**

**Build A Boundless Future**



Largest Private University in Michigan  
Over 100 academic programs  
Over 5,000 students  
Great urban setting  
Mission: Developing the whole person





College of Liberal Arts and Education  
College of Engineering and Science  
College of Health Professions  
College of Business  
School of Law  
School of Architecture  
School of Dentistry





UNIVERSITY OF  
**DETROIT  
MERCY**

College of Engineering & Science





Department of Civil, Architectural and Environmental Engineering  
Department of Electrical and Computer Engineering  
Department of Mechanical Engineering  
Department of Biology  
Department of Chemistry and Biochemistry  
Department of Mathematics, Computer Science & Software Eng.



**BEST  
COLLEGES**

**U.S. News** & WORLD REPORT

REGIONAL UNIVERSITIES  
BEST VALUE  
2017

**BEST  
COLLEGES**

**U.S. News** & WORLD REPORT

REGIONAL UNIVERSITIES  
MIDWEST  
2017

**BEST  
COLLEGES**

**U.S. News** & WORLD REPORT

REGIONAL UNIVERSITIES  
MIDWEST  
2016

**BEST  
COLLEGES**

**U.S. News** & WORLD REPORT

REGIONAL UNIVERSITIES  
MIDWEST  
2015

**BEST  
COLLEGES**

**U.S. News** & WORLD REPORT

ENGINEERING PROGRAMS  
2015

ENGINEERING

**100**  
1911-2011

Accredited

**ABET**

Engineering  
Accreditation  
Commission





Detroit is a great place to study!







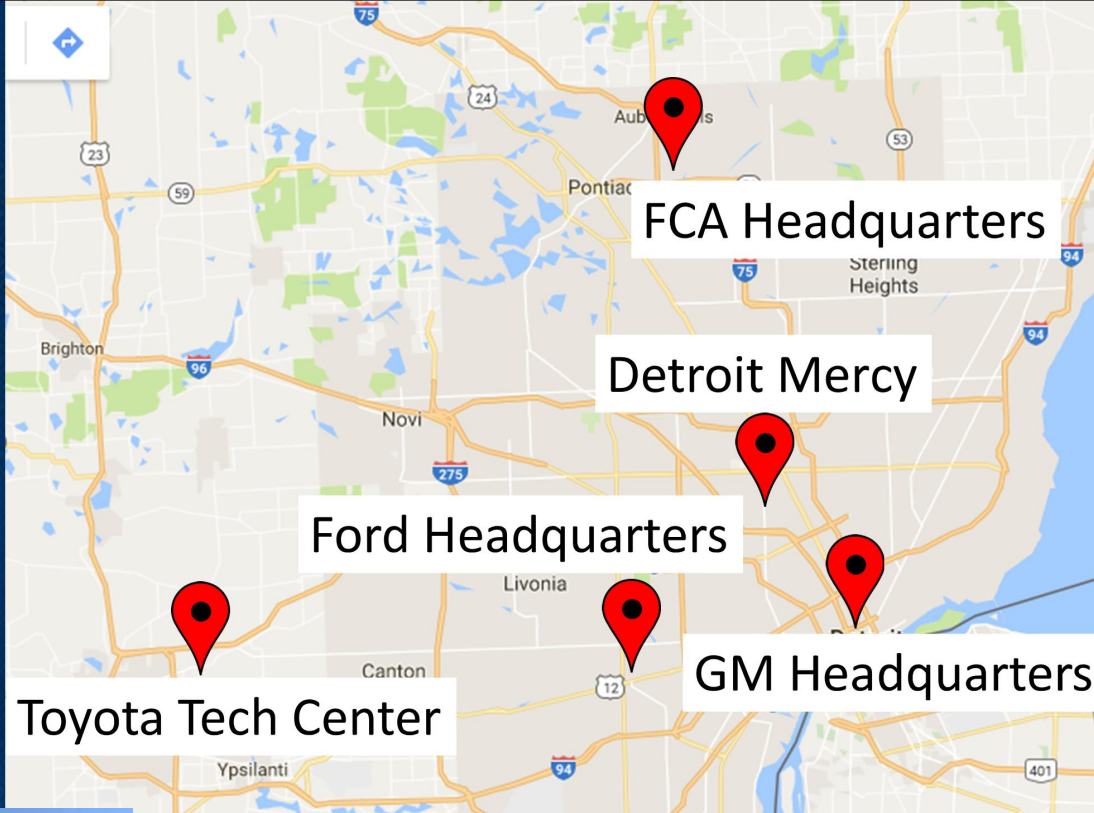
# Detroit







# Global industry in a global city







# Some Industry Partners



**LOCKHEED MARTIN**



**TI Automotive**







# Rapidly Changing Technology

Emerging Technologies

Self-driving cars

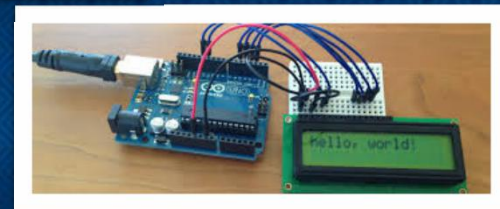
Smart infrastructure

Artificial Intelligence

Alternative energy

IoT

Industry 4.0







# Engineering @ Detroit Mercy

- Access to faculty for mentoring and academic support
- Relevant hands-on experiential learning
- Rigorous academics
- Well-rounded education
  - Critical thinking
  - Communication & collaboration skills
  - Entrepreneurial mindset
  - Career development
  - Making a difference through your skills and talents
  - 100% employment or grad school







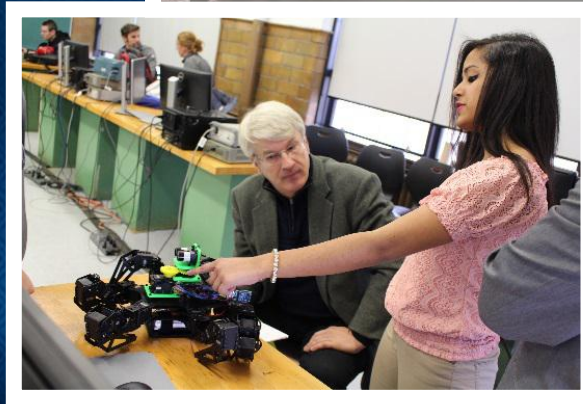
# Electrical & Computer Engineering

Electronics and  
Computers

Power and Energy

Communications

Signals and systems







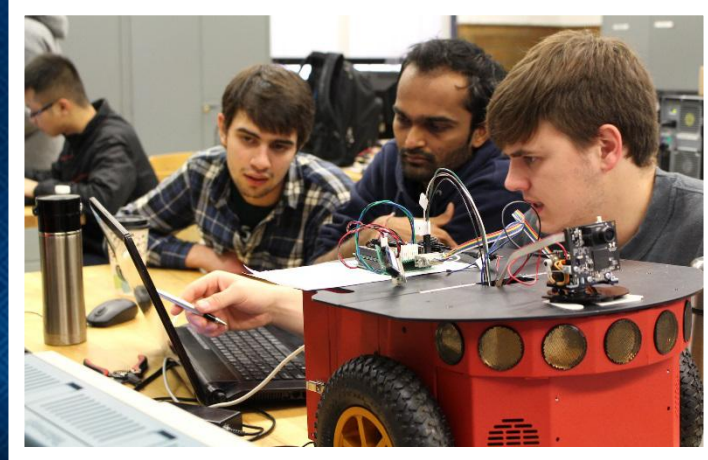
# Robotics and Mechatronics

Intersection of mechanical  
and electrical systems

AI and Neural networks

Image processing

Autonomous vehicles







# Civil & Environmental Engineering

Structures

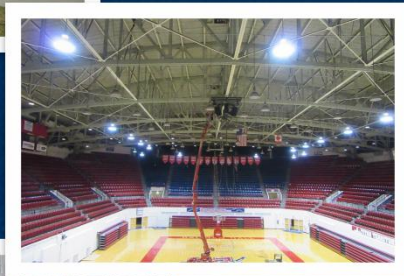
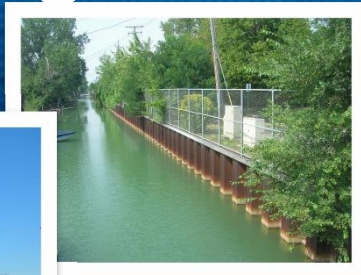
Geotechnical

Construction

Transportation

Sustainability

Environmental





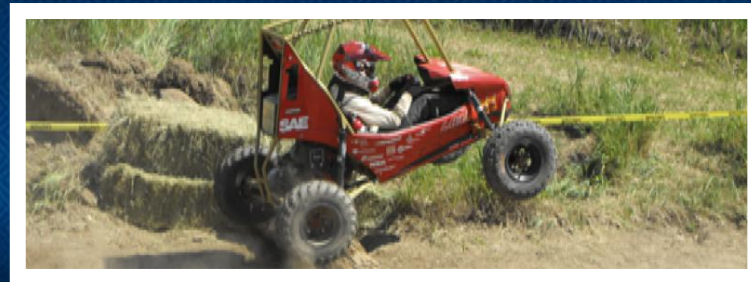
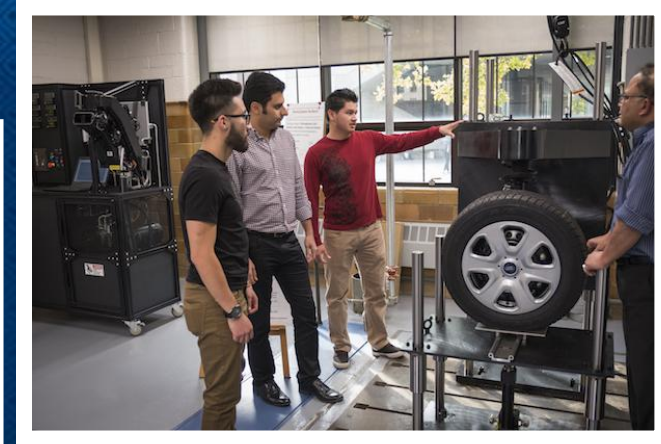


# Mechanical Engineering

Machines and mechanisms

Power and energy

Manufacturing processes







# Computer Science/Software Engineering

Software Management

Artificial Intelligence

Cryptography

Analytics

Cybersecurity

Recommender Systems

Software Development



**NETFLIX**







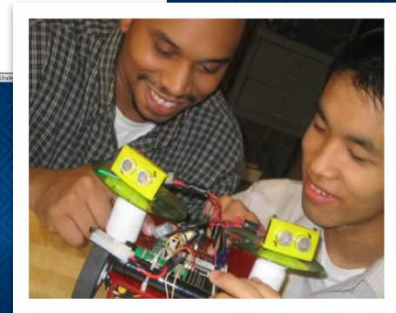
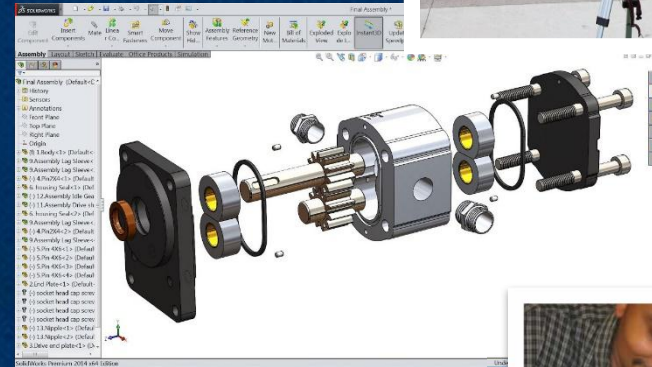
# Freshman Engineering Experience

## Technical skills

- Computer modeling
- Fabrication
- Programming
- Hardware
- Surveying

## Project-based learning

- Design and realization
- Innovation and creativity
- In a real-world (business) context







# Applied Projects

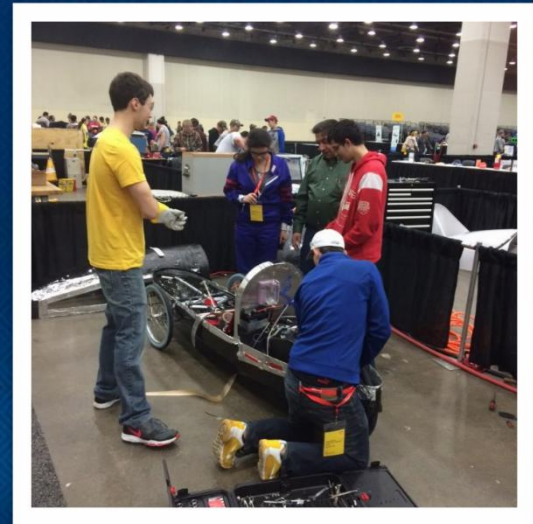


Intelligent Ground Vehicle Competition

Assistive Technologies



Shell Eco-Marathon Competition







# Applied Projects

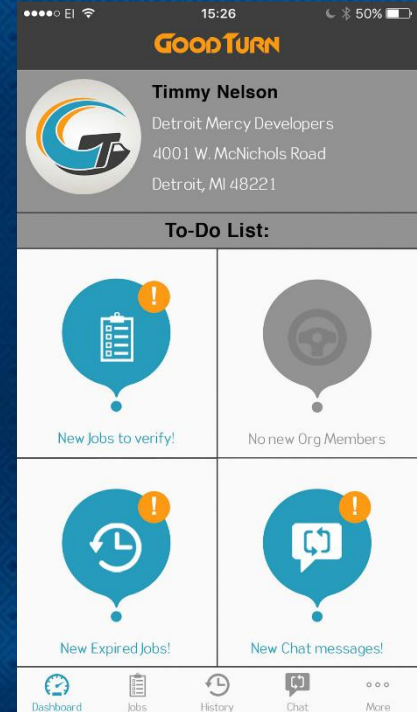


## Concrete Canoe Competition

## Q-Line



## GoodTurn App







# College Research Symposium







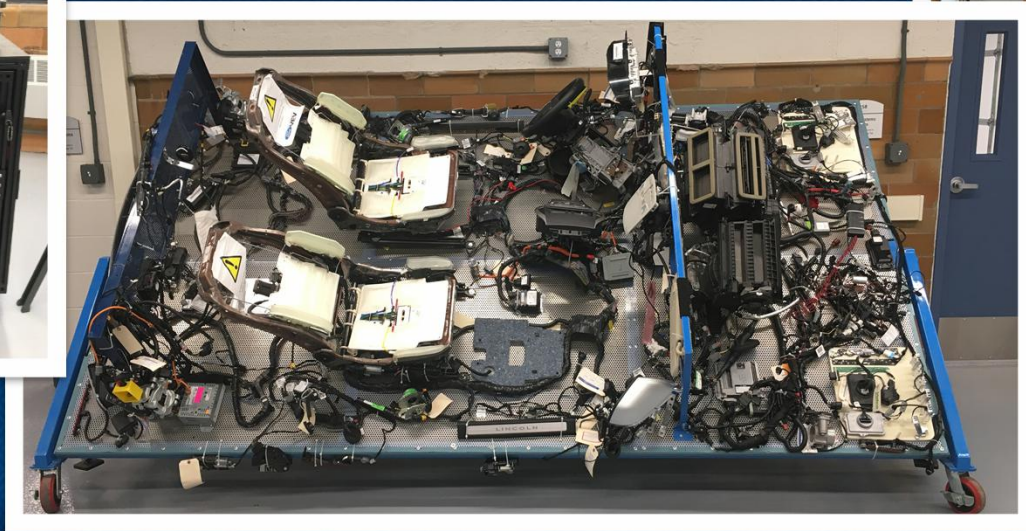
# Center for Automotive Systems Engineering Education







# Center for Automotive Systems Engineering Education







# Student Projects







# Entrepreneurially-minded Engineers

The three Cs:

Curiosity  
Connections  
Creating value

Innovation and Creativity

**Front end:** Design thinking,  
structured innovation techniques

**Back end:** Market, value  
proposition, intellectual property,  
supply chain, manufacturability







# Alumni







# Alumni Leaders (partial list)

**Chairman & CEO – Japan Communications**  
**Chairman & CEO - Detroit Edison**  
**Senior Chairman - Booz, Allen & Hamilton**  
**Vice Chairman – Deloitte & Touche**  
**President – Ford Motor Company**  
**President - Pratt & Whitney Government Systems**  
**President – Continental**  
**Senior Vice President – IBM**  
**Vice President - BASF**  
**Vice President – Boeing**  
**Vice President – DaimlerChrysler**  
**Vice President - Dell Computers**  
**Vice President - Dow (2)**  
**Vice President - Ford (4)**  
**Vice President - GE**  
**Vice President – Kodak**  
**Vice President - Lear**  
**Vice President – Lockheed - Martin**  
**Vice President - Motorola-Latin America**  
**Vice President - Pfizer Vice President - IBM**  
**Vice President - Xerox (3)**





# ENGINEERING & SCIENCE PROGRAMS

Program	Accelerated Option	Bachelors	Masters	Doctorate
Architectural Engineering	X	X		
Civil & Environmental Engineering	X	X	X	X
Computer Science/Software Engineering	X	X	X	
Electrical & Computer Engineering	X	X	X	X
Mechanical Engineering	X	X	X	X
Robotics and Mechatronics Systems Engr.	X	X		





# ENGINEERING & SCIENCE PROGRAMS

<i>Program</i>	<i>Bachelors</i>	<i>Masters</i>
<i>Biology, including Pre-Med/Dent/PA etc.</i>	<i>X</i>	
<i>Chemistry, including Pre-Med/Dent/PA etc.</i>	<i>X</i>	<i>X</i>
<i>Biochemistry, including Pre-Med/Dent/PA etc.</i>	<i>X</i>	
<i>7-Year Dental (accelerated to DDS)</i>	<i>X</i>	
<i>5-Year Physician Assistant (accelerated to MS)</i>	<i>X</i>	
<i>Mathematics</i>	<i>X</i>	





# ENGINEERING & SCIENCE PROGRAMS

<i>Discipline</i>	<i>Concentration</i>	<i>Minor</i>	<i>Certificate</i>
<i>Bioinformatics</i>		X	
<i>Actuarial Science</i>		X	
<i>Applied Mathematics</i>		X	
<i>Entrepreneurship</i>		X	
<i>Biomedical Engineering (coming soon!)</i>		X	
<i>Applied Genetics</i>	X		
<i>Neuroscience</i>	X		
<i>Advanced Electric Vehicles</i>			X
<i>Smart and Autonomous Vehicles</i>			X
<i>Systems Engineering</i>			X
<i>Six Sigma</i>			X



# International Partnership







# International Partnership





# International Partnership







# College of Engineering & Science



[eng-sci.udmercy.edu](http://eng-sci.udmercy.edu)



YouTube

