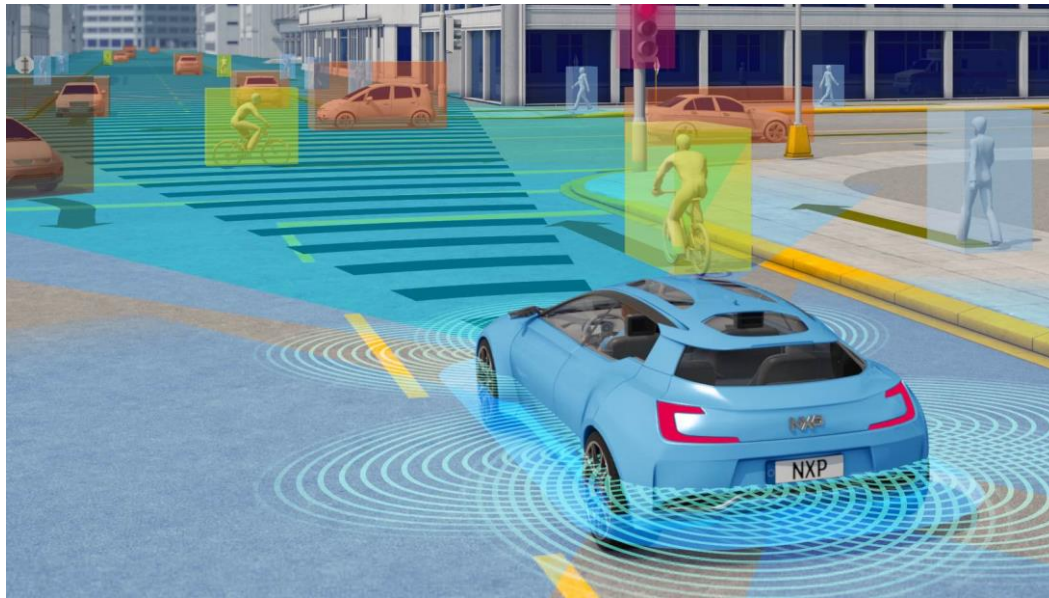




Preview of the Future of Mobility by the CLC Educational Institute

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The Breakdown

The future of mobility consists of three ingredients

- Electrification of Powertrain
- Autonomous Technology
- Car & Ride Sharing

Electrification

Electrified vehicles are the ones that use fully or partially electricity as moving power.

- Fully Electrified:
 - Battery Electric Vehicles (BEV) use electric motors and batteries
- Partially Electrified:
 - Hybrid Electric Vehicles (HEV) combine electric motors and batteries with the conventional internal combustion engine

Electrification

Education that leads to a career in the automotive industry.

- Electrical Engineering
- Computer Science
- Mechanical Engineering

Electrification

Companies that are pioneers in this area:

- Tesla
- Rivian
- Faraday Future
- Most of the conventional automotive companies are trying to catch up.

Autonomous Technology

- Autonomous technology is the heart of the future of the entire transportation industry and the creation of smart cities.
- Transit driverless vehicles that communicate with each other for traffic optimization.
- Commercial autonomous vehicles that transfer goods.
- This technology will lead the way in the future to autonomous shipping and aviation.

Autonomous Technology

- Autonomous and connected vehicles require another two things:
 - 5G Connectivity
 - Cyber security
- There is a great demand in the market at the moment for people with education in cyber security. Cyber security is also a branch of computer science and software engineering.

Autonomous Technology

The autonomous technology is part of:

- Computer Science and Software Engineering
 - Big Data Analytics
 - Machine Learning /Artificial Intelligence
- Universities around the world have already created degrees in Data Analytics and Artificial Intelligence.
- Combine an undergraduate degree in software engineering with a master's degree in data analytics might be the best way forward to the autonomous technology and other technologies and industries.

Autonomous Technology

Companies that are pioneers in this area:

- Waymo (a GOOGLE company)

<https://waymo.com/>

- Argo AI <https://www.argo.ai/>

- Cruise Automotive

<https://www.getcruise.com/origin>

- Tesla
- NVIDIA

Car & Ride Sharing

- Car sharing is exactly what it means. Residents in big cities prefer to share, rent or ride cars.
- Car and ride sharing is cheaper than owning a car since you can use a car on demand. No insurance and maintenance pay.
- Electric Scooters are part of this sector. They want to cover 1 mile distances within a city.

Car & Ride Sharing

- In order to work in this sector the best way is as a software engineer or a data analyst.
- Computer science and software engineering undergraduate degrees will help land a very high first salary. Then you may decide what you want to do next In your career.

Car & Ride Sharing

Companies that are pioneers in this area:

- Uber
- Lyft
- MAVEN
- Zipcar
- Turo
- Lime (Electric Scooters)

<https://www.li.me/en-US/home>

Universities

- University of Michigan created an entire city to develop autonomous vehicles through its Transportation Initiative.
- U of M Transportation Initiative:
<http://www.umtri.umich.edu/>
- U of M autonomous city:
<https://mcity.umich.edu/>

Universities

- The Ohio State University has a great program for the automotive industry. More details here: <https://car.osu.edu/>
- Clemson has also a great program for the automotive industry: <https://www.clemson.edu/cecas/departments/automotive-engineering/>

Universities

- For the autonomous and connected vehicles any university that has good programs in computer science and software engineering will land you a job with a beginning salary of 100K – 120K.
- The good thing about having that knowledge is that you can easily join other companies such as Facebook, Google, Amazon, Microsoft, Bloomberg or even transition to the financial sector.