### Farooq Ahmed Zuberi

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DOB: 1st December 1990

#### **Objective**

Specialized Master's degree in cognitive technical systems and expertise in advanced topics of Machine Learning and Artificial Intelligence. Seeking a position in research and development where I can apply and polish my problem solving skills for challenging tasks in robotics and autonomous driving domain.

#### Technical skills

#### **Programming Languages**

- Proficient in: C/C++, Java, Python, Matlab
- Familiar with: Lua, R, Bash, C#, PHP, SQL **JavaScript**

#### **Machine Learning**

- Hands-on practical experience with Caffe, Torch 7 for Deep Learning
- Familiar with Tensor Flow, Keras, Theano, Lasagne and Pytorch.
- Working experience with Mallet, R, Rapid Miner, Weka, SPSS, Scikit-learn (Numpy / Scipy) as well.

#### **Robotics and Computer Vision**

- OpenCV
- Robotics Operating System (ROS)
- Automotive Data and Time-Triggered Framework (ADTF)

#### Others

- Source Control: Git, SVN.
- Platforms: Microsoft Windows and Linux.
- Documentation in Latex, MS Office.
- Familiar with AWS, CUDA, Map-Reduce, NoSQL databases, Docker, Android SDK, OpenGl and Web development.

#### Experience



April 2017 - current

Machine Learning Software Engineer **Technology and Strategy Engineering** 

Project: Robert Bosch GmbH – Stuttgart Region, Germany Chassis Control – Driver Assistance (CC-DA)

**Master Thesis Student** Robert Bosch GmbH

Corporate Research – Renningen, Germany

Driver Assistance and Automatic Driving and Bosch Center for Artificial Intelligence Topic: Semantic Segmentation for 3D Point Clouds using Deep Learning

Research Assistant (HiWi)

Automated Algorithm Design chaired by Dr. Frank Hutter & Computer Vision Group chaired by Prof. Thomas Brox

Albert Ludwig University of Freiburg – Freiburg im Breisgau, Germany

Software Engineer

Creative Chaos (Pvt.) Limited

Karachi, Pakistan



Jul 2016 - Dec 2016

Jan 2015 - May 2016

**CREATIVECHAOS** 

Jul 2013 - Sep 2014

#### Education



Oct 2014 - Mar 2017



Masters of Science (MS) in Computer Science

Albert Ludwig University of Freiburg, Freiburg im Breisgau, Germany.

Major: Cognitive Technical Systems

CGPA – 1.4 out of 5 with 1.0 being the highest grade

Thesis: CloudSeg: Semantic Segmentation for 3D Point Clouds using Deep Learning

Grade of thesis: 1.5 out of 5 with 1.0 being the highest grade

### Bachelors of Science (BS) in Computer Science

FAST National University, Karachi, Pakistan.

CGPA - 3.14 out of 4 with 4.0 being the highest grade

Thesis: ClickSafe: Mitigation and Prevention from Clickjacking Grade of thesis: 3.8 out of 4 with 4.0 being the highest grade

# Research and Publications

#### CloudSeg: Semantic Segmentation for 3D Point Clouds using Deep Learning

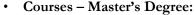
- This thesis performs LIDAR perception task for autonomous driving, learning directly from raw data in order overcome the classical ML pipeline.
- CloudSeg, a novel CNN architecture, is designed and trained on LIDAR data recorded in urban environment, to perform end-to-end semantic 3D point cloud segmentation.
- CloudSeg evaluated point clouds from LIDAR to 11 distinct classes for semantic scene understanding. Qualitative and quantitative analysis of CloudSeg performance with 2D and 3D visualizations is also presented.
- ClickSafe/Mitigation and Prevention from Clickjacking, 15th IEEE International Symposium on High Assurance Systems Engineering, 2014, Miami, Florida, USA.
- Dynamic Gesture Recognition using Machine Learning Techniques and factor affecting its accuracies, 6th International Conference on Innovative Computing Technology (INTECH), 2016, Islamabad, PK

# Projects and Courses



#### Audi Autonomous Driving Cup 2016 (AADC 2016)

- Autonomous Driving Challenge for development of automatic driving function.
- Implemented and designed Automated Driving Lifecycle comprising different modules in ADTF using C++.
- Development of integration module along with lane keeping, emergency braking, crossroad detection modules.
- Secured 5th position among the top German Engineering Universities.
- Advance Machine Learning Lab with Prof. Martin Riedmiller Deep Learning Hands on Practical Experience of Neural Networks in LUA and Convolutional Neural Networks in Torch 7 for MNIST Dataset and object detection/classification tasks.



- Foundation of Artificial Intelligence
- Statistical Pattern Recognition
- Artificial Intelligence Planning
- Human Oriented Robotics
- System Infrastructure in Data Science
- Mobile Robotics
- Machine Learning
- Computational Neuroscience

#### • Seminars:

Advance AI Planning, Social Robotics, Machine Learning and Computational Neuroscience.





Coursera Certifications:

Machine Learning, Introduction to Data Science, R Programming, Cleaning Data

- Courses Bachelor's Degree:
  - Machine Learning
  - Computer Graphics
  - Data warehousing
  - Concurrent and Distributed Systems
  - Mobile Computing
  - Information Processing Techniques

References will be furnished upon request.

