Guanqun CAO

Born in Beijing, P.R. China (1986)
Long-term EU resident (P-EU)
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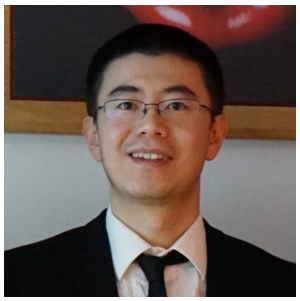

Brief Intro

I am an automotive engineer with strong background in machine learning, pattern recognition and image processing. Meanwhile, I remain engaged in academic activities and collaborations.

Several Highlights

- PhD in Data Mining and Machine Learning leading to top publications, and hold privileged engineering degrees and several awards.
- My expertise lies in exploiting machine learning and pattern recognition techniques in numerous application, including computer vision and safety for autonomous driving system.
- Full-stack skills in data science from applied statistics, data mining to various computing infrastructure development.
- Adaptive to dynamic work place, a great team player, and excited to work in a diverse team.
- Beijing-born and EU-educated. Used to study and work for long term in 8 countries, including 6 different EU countries, China and USA.

Education

Tampere University, Tampere, Finland
PhD (with Distinction) in Computing Science 12/2011—04/2018

CIMET Master Erasmus Mundus, Univ. Jean Monnet, France; NTNU, Norway; Univ. of Granada, Spain
M.S. in Color Informatics and Media Technology 09/2008—09/2010

Huazhong University of Science and Technology, Wuhan, Hubei Province, P.R. China
B.Eng in Electronic & Information Engineering 09/2004—06/2008

University of Birmingham, Birmingham, UK
B.Eng(*Hons*) in Electronic & Computer Engineering 10/2007—06/2008

Work Experience

1. Data Mining / Deep Learning Engineer at Volvo Cars. Apr. 2018 - Currently
    - Geo-spatial data analytics and traffic scenario analysis for autonomous driving validation & verification.
    - Developed perception algorithms, e.g. an end-to-end solution for camera-based object detection and tracking on NVidia Drive PX-2. The robust online multi-object tracking algorithm achieves the start-of-the-art results.
    - Initiated and maintained the computing and data storage facilities for the team.
    - First Engineer at Data Intelligence Team of Autonomous Driving section
    - Tech lead of 3 trainees/engineers
2. Visiting Researcher to Tampere University, Finland and Wuhan University, China. Jan. 2019 - Currently
3. Contract Researcher with Intel Finland Corp. Sept. 2017 - Apr. 2018
    - Machine learning in mobile imaging in the NSF CVDI programme together with Business Finland.
4. Contract Researcher with Tieto Oy, Sept. 2016 - Aug. 2017
    - Work on research project of 'Comparative Knowledge Discovery: Analyzing, Understanding and Visualizing Rankings' in the site of the NSF CVDI programme.
5. Visiting researcher to University of Lousianna at Lafayette and University of Virginia, April 2017.
    - Multi-facet object ranking.
6. Researcher at Tampere University of Technlogy, Jan. 2010 - Dec. 2017
    - researched and developed new feature descriptors for large scale scene recognition techniques collaborated with Alma Media
    - researched on image/object segmentation techniques
    - took part in MSR-Bing challenge 2013 and develop automation tools on the supercomputer for training machine learning models
    - researched on large scale learning algorithms in the cloud
    - supervised 1 master thesis worker on machine learning for color constancy with Intel
7. Research assistant at Laboratoire Hubert Curien, French National Center for Scientific Research (CNRS). 2009.7-2009.8

   Blur identification, perceptual image quality assessment.

Publications

Google Scholar Link: https://scholar.google.com/citations?hl=en&user=owGiCUkAAAAJ

Talks

- "Geo-spatial Data Mining Using **R!**", Why R? 2020 Conference.
- "How will Big Data transform our life?", to students of France Telecom, at New Factory Tampere, July, 2014

Honors

1. Tampere University Graduation Award for PhD With Distinction (€1,500), 2020.
2. Travel Grant (€3000) for Excellent PhD Researchers in Guangdong Innovation Programme, Oct 2019
3. Best student paper award at IEEE IPTA 2016.
4. Member of the 2nd winning team in Microsoft Research-Bing challenge 2014
5. Erasmus Mundus Scholarship (€42,000 in total) funded by the European Union, Aug 2008 to Aug 2010
6. Technicolor award for the project contest winners in 2009 (€1,500 in total)
7. International Studentship, University of Birmingham, October 2007

Skills and Hobbies

Professional skills: Machine/Statistical/Deep Learning, Embedded & Cloud Computing, Multimedia Information Retrieval, Image Processing.

Computer skills: Python, Shell Scripting, Matlab, R, Latex, C/C++, GIMP, Excel, Linux

Device capability: Spectral photometer, spectral colorimeter, SMI high-frequency eyetracker

Language Skills: English (excellent), French (intermediate), Spanish (basic), Chinese (native).

Professional services: IEEE Member, reviewers for IEEE Trans. on Cybernetics, IEEE Trans. on Neural Networks and Learning Systems, IEEE Trans. on Vehicular Technology, Journal of Visual Communication and Image Understanding, International Conference on Image Processing 2019, etc.

Hobbies: Swimming, photography, archery, backpacking.