Bo Cao

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**EDUCATION**

**University of Colorado Boulder**, Boulder, Colorado Graduated in 05/2018

M.S. Computer Science **GPA: 3.9/4.0**

Honors: Beverly Sears Graduate Student Grant award for Master Dissertation from CU-Boulder 03/2017

**The University of Sheffield**, Sheffield, United Kingdom 09/2012-09/2013

MSc Software Systems and Internet Technology

**Guangdong University of Technology**, GuangZhou, China 09/2007-06/2011

B.Eng. Computer Science and Technology

Honors: First (top 3%) & Second (top 8%) Class Scholarships  06/2010

**SKILLS**

Languages: Python, Java, JavaScript, PHP, SQL, C++

Machine Learning Models: kNN, Decision Tree, Bagged Tree, Random Forest, k-means Clustering

Deep Learning: CNN, R-CNN, RNN, LSTM, Audoencoder AI/ML Tools: TensorFlow, GraphLab

Big Data: Kafka, Spark, Hadoop, MapReduce, AWS, MySQL Computer Vision: OpenCV

Web-Dev: JavaScript, Node.js, MVC, Bootstrap, jQuery, D3.js, AJAX, JSON

**WORK EXPERIENCES**

**Research Intern** Ericsson Silicon Valley, Santa Clara, California [[Research Blog](http://ericsson.com/research-blog/collaboration-augmented-reality-summer-labs/)] 05/2017-08/2017

● Developed an app of **Collaboration on Augmented Reality** using **HoloJS, Node.js, WebGL & JavaScript**

**Project Research Assistant** 02/2016-05/2017             **Lab Network Systems Administrator** 08/2016-05/2017

Laboratory for Interactive Robotics & Novel Technologies (IronLab), University of Colorado Boulder

● Ran user study to collect gestures to navigate robots from **RGB-D** camera and Myo Armband

● Designed a **Recurrent Convolutional Neural Network** to **classify** gestures to navigate robots on **RGB** video

**Test Engineer**IBM International System Technology Co. Ltd (ISTC), Shenzhen China                      05/2014-11/2014

● Tested **System X** servers by **test code** run on **Linux**

● Implemented **Front-end** work of **Redfish** Project for **report auto-generation** using **JavaScript, Python** and **web.py**

**PROJECTS**

**Data Science Boot Camp** 05/2018-Present

● Built a **music** **recommendation** system **Music Box Churn** to recommend music based on **item-similarity** using

**Python & Spark**.

● Built a **restaurant** **recommendation** system on **Yelp Dataset** to recommend restaurants based on **item-similarity,**

**clustered** restaurantsusing **Python & GraphLab**.

**Master's Thesis: DiffNet – A Deep Learning Method for Intuitive Robot Navigation**   08/2016-Present

● Collected data in **RGB**-**D images** and **videos** for robot navigation by **KinectV2** & **Myo Armband.**

● Implemented **Recurrent Convolutional Neural Network & Autoencoder** using **TensorFlow & Python.**

**Art Images Similarity to Human Judgment Accuracy** [[Github](https://github.com/BryanBo-Cao/neuralnets-deeplearning)]08/2017-12/2017

● Designed a novel method to calculate **distance** between two images using **Hough Line Transform** in **OpenCV**.

● Implemented **autoencoder** extract **image feature** from art images using **TensorFlow & Python.**

● Increased the correlation between distance of images and human judgement accuracy with **Spearman's** Correlation.

**Integration of Robotics Car** [[Github](https://github.com/BryanBo-Cao/advancedrobotics)] [[YouTube Demo](https://www.youtube.com/watch?v=Tb0sU9bNYIY)] 08/2015-12/2015

● Integrated a Robotics Car with Jaguar and Stewart platform, controlled and communicated via ROS (Robots

Operating System)

● Navigated the indoor environment via SLAM using stereo camera, IMU(Inertial Measurement Unit) and Lidar.

**Web Development Boot Camp** 02/2016-05/2017

● Built a big data pipeline **GreenArrow** to gather and visualize criminal data on an interactive map **using Java, AWS,**

**JavaScript, MongoDB, Kafka, Bootstrap, Spark, Node.js, Google Maps APIs, JSON, Twitter APIs.** [[Github](https://github.com/CUBigDataClass/IceStream)]

● Developed a **Web Based Holiday System** using **HTML, CSS, JS, Bootstrap, MySQL** on **WAMP**.