

M Usman Maqbool Bhutta

PHD CANDIDATE · DEPARTMENT OF ELECTRONIC AND COMPUTER ENGINEERING, HKUST, HK

2008 (25), Robotics Institute, 2nd Floor, CYT Building, Lift(35-36), HKUST

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"Do it with passion or not at all."

Summary

Apart from the research and coding, I'm good in the project management, networking for building teams, writing proposals and presenting ideas. I'm Interested in devising a better problem-solving method for challenging tasks, and learning new technologies and tools if the need arises. I've 5+ years of experience specializing in robotics R&D and project management. Current co-founder and COO of a startup which provides indoor navigation services using visible light communication technology [Lisee Technology Corporation Limited Hong Kong]. I have been a part of several other startups related to real estate, marketing, and automation. I'm a simple person who loves entrepreneurship and enjoys to develop the idea to reality.

Education

The Hong Kong University of Science and Technology - HKUST

(Kowloon, Hong Kong)

PH.D. CANDIDATE, RAM-LAB, ROBOTICS INSTITUTE, DEPARTMENT OF ELECTRONIC & COMPUTER ENGINEERING

Sep. 2016 - Present

- PhD Supervisor: **Prof Ming Liu**, Director of Robotics and Multi-Perception Lab (**RAM-LAB**)
- Exchange Supervisor: **Prof. Roland Siegwart**, Director of Autonomous Systems Lab (ASL), **ETH Zürich**, Switzerland.
- Exchange Co-Supervisor: **Dr. Cesar Dario Cadena Lerma**, Senior Researcher at ASL, **ETH Zürich**, Switzerland.
- Got PEEF CCMS PhD scholarship from Pakistan and overseas research award (ORA).
- Research: Multi-Agent SLAM System, Place Recognition, Autonomous Car and Deep Learning for automation industry.

Quaid-i-Azam University - QAU

Islamabad, Pakistan

M.PHIL. ELECTRONICS, DEPARTMENT OF ELECTRONICS

Mar. 2010 - Jun. 2012

- M.Phil. Supervisor: **Prof Hasan Mahmood**, Department of Electronics, QAU.
- Research: Signal and Image Processing
- Grade: 1st Division (80% Marks)

Quaid-i-Azam University - QAU

Islamabad, Pakistan

M.SC. ELECTRONICS, DEPARTMENT OF ELECTRONICS

Mar. 2010 - Jun. 2012

- 2nd position in batch
- Projects: completed nine projects related to C++, Verilog/HDL and Micro-controller programming.

Bahauddin Zakariya University - BZU

Multan, Pakistan

B.SC. IN MATHEMATICS AND PHYSICS

Mar. 2010 - Jun. 2012

- Grade: 1st Division

Research Publications

Loop-box: Multi-Agent Direct SLAM Triggered by Single Loop Closure for Large Scale Mapping

IEEE Transactions on Cybernetics
(IF: 10+)

M USMAN MAQBOOL BHUTTA*, MANOHAR KUSE, RUI FAN, YANAN LIU, MING LIU

Under Revision

Accepted in IEEE International Conference on Imaging Systems and Techniques (IST) 2018

Smart-Inspect: Micro Scale Localization and Classification of Smart Phone Glass Defects for Industrial Automation

IEEE/RSJ International Conference
on Intelligent Robots and
Systems. IROS 2020

M USMAN MAQBOOL BHUTTA*, SHOAB ASLAM, PENG YUN, JIANHAO JIAO, MING LIU

Oct 2020

Accepted in IEEE International Conference on Imaging Systems and Techniques (IST) 2018

Multiple Lane Detection Algorithm Based on Optimised Dense Disparity Map Estimation

Conference Paper

HAN MA, YIXIN MA, JIANHAO JIAO, M USMAN MAQBOOL BHUTTA, MOHAMMUD JUNAID BOCUS, LUJIA WANG, MING LIU, RUI FAN

Oct 2018

Accepted in IEEE International Conference on Imaging Systems and Techniques (IST) 2018

PCR-Pro: 3D Sparse and Different Scale Point Clouds Registration and Robust Estimation of Information Matrix For Pose Graph SLAM

Conference Paper

M USMAN MAQBOOL BHUTTA*, MING LIU

Jul 2018

Presented in IEEE Int. Conf. on CYBER Technology in Automation, Control, and Intelligent Systems, and won **Best Student Paper Finalist Award**.

An intelligent approach for robust detection and recognition of multiple color and font styles automobiles license plates: A feature-based algorithm

Conference Paper

M USMAN MAQBOOL BHUTTA*, HASAN MAHMOOD, AND HAROON MALIK

Jul 2014

Published in IEEE International Conference on Audio, Language and Image Processing (ICALIP).

Efficient Reset Design Techniques

Journal Paper

QAMAR, ZOHA, BUSHRA YASEEN, AND USMAN MAQBOOL

2015

Published in Science International Lahore

Work Experience

INDUSTRY

Lisee Technology Corporation Limited

Central, HK

COO

Jan 2018 - Present

- Won funding support for company | TSSSU Support HK\$ 300,000 (Jun 19 - May 20).
- Indoor Navigation for Libray using Lisee Technology | PCF Support HK\$ 160,000 (Jun 18 - May 19).

Friends Corporate Technologies

Islamabad, PK

CEO

Feb 2013 - Aug 2015

50+ Projects | Electronics/ Electrical Engineering, R&D, image processing, Web Applications Development, MVC Applications

Federal Government of Pakistan

Islamabad, PK

SCIENTIFIC OFFICER

May 2012 - Feb 2013

Electronics/ Electrical Engineering, R&D, image processing

Server4Sale, LLC

Islamabad, PK

PHP DEVELOPER

Dec 2009 - Mar 2010

Php web application development for Joomla and Zend frameworks.

ACADEMIC

Department of Computer Science

BZU sub campus Sahiwal, PK

LECTURER (VISITING)

Feb 2016 - Jun 2016

Teaching MCS and BS-CS courses

Department of Physics

Government PG College Sahiwal, PK

CTI

Aug. 2015 - Apr. 2016

Teaching BS physics (Electronics related courses + Labs + Projects)

Honors & Awards

INTERNATIONAL

July, 2018 **Best Student Paper Finalist Award**, IEEE Int. Conf. on CYBER Technology in Automation, Control, and Intelligent Systems

Tianjin, China

May, 2018 **Best Proposal Audience Award**, Campus Challenge - Transportation, HKUST

HKUST, HK

Nov, 2017 **Best Mapper Award**, Robotics and Multi-Perception Lab, HKUST

Shenzhen, China

May, 2017 **Completion Award**, The Graduate Teaching Assistant Training, HKUST

HKUST, HK

Dec, 2016 **Best External Award**, Robotics and Multi-Perception Lab, HKUST

Shenzhen, China

Nov, 2016 **Completion Award**, Author Workshop, Elsevier Publishing Campus

HKUST, HK

DOMESTIC

Sep 2016	CCMS PhD Scholarship , Won Chief Minister Marit Scholarship (CCMS) scholarship award by Punjab Government (PEEF), Pakistan for pursuing my PhD studies at HKUST, HK	Lahore, PK
Sep 2013	Participant , Painting for peace (Pakistan-India-Afghanistan) event, a part of the Harmony initiative	Islamabad, PK
Apr 2013	Participant , Case Spark in business plan competition	Islamabad, PK
Apr 2013	Participant , Case EPICA	Islamabad, PK
Apr 2013	Participant , How to be a Better Playwright Workshop by PNCA and US Embassy Pakistan	Islamabad, PK
Oct 2012	Participant , Punjab Youth Festival	Lahore, PK
Oct 2011	Participant , Int'l Youth Conference and Festival	Islamabad, PK
Sep 2011	Participant , Asian Youth Conference and Peace Festival	Lahore, PK
Apr 2011	Completion Award , Acting and Directing Theater Workshop by PNCA and US Embassy Pakistan	Islamabad, PK
Dec 2011	Participant , National Drama Festival	Islamabad, PK
Dec 2010	Instuctor of short Course , PHP Web Development' at the Department of Electronics, QAU	Islamabad, PK
Apr 2013	Completion Award , Running River Rafting course by Adventure Foundation of Pakistan	Mansehra, PK
Apr 2013	Completion Award , Paragliding course by QAU Adventure Club	Islamabad, PK
Dec 2008	Award of Honor , Finance Secretary of Electronics Student Society (ESS) at QAU	Islamabad, PK

Academic Activities

IROS	Referee Service , IEEE/RSJ RA-L and International Conference on Robotics and Automation	2020
Spr 2020	Teaching Assistant , EESM 5547 - Multimedia Signal Processing	HKUST, HK
ICRA	Referee Service , IEEE/RSJ International Conference on Robotics and Automation	2020
Spr 2019	Teaching Assistant , EESM 5547 - Multimedia Signal Processing	HKUST, HK
CASE	Referee Service , IEEE International Conference on Automation Science and Engineering	2019
IROS	Referee Service , IEEE/RSJ International Conference on Intelligent Robots and Systems	2019, 2018
Fall 2018	Teaching Assistant , ELEC4820 - Medical Imaging	HKUST, HK
Spr 2018	Teaching Assistant , EESM 5547 - Multimedia Signal Processing	HKUST, HK
Spr 2017	Teaching Assistant , ELEC 1010 - Electronic and Information Technology	HKUST, HK