M Usman Maqbool **Bhutta**

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"Be so good they can't ignore you."

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 6+ 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**]. In 2018, HKUST organized Campus Challenge @ HKUST Transportation and received 80+ proposals. My work got the Audience Award and I received it from HKUST President Wei Shyy. I've introduced Lisee technology at IET-YPEC (Young Professionals Exhibition and Competition), which was held in City University of Hong Kong (July 08, 2018). In 2018, we got support of HK$160,000 from Proof-of-Concept Fund (PCF) from HKUST. Moreover, in 2019, we won funding support of HK$300,000 from Technology Start-up Support Scheme for Universities (TSSSU), HK. I have been a part of several other startups related to real estate, marketing, and automation since 2011. I'm a simple person who loves entrepreneurship and enjoys to develop the idea to reality. My full profile can view here (`https://usmanmaqbool.github.io/`).

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)

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 - ~Feb. 2021*

- 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: A

Quaid-i-Azam University - QAU
Islamabad, Pakistan

M.Sc. Electronics, Department of Electronics
Mar. 2010 - Jun. 2012

- **2nd position** in batch
- Projects: completed 9+ 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

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 Embassay 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 Embassay 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*

Research Publications

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

Journal Paper

M Usman Maqbool Bhutta*, Manohar Kuse, Rui Fan, Yanan Liu, Ming Liu

Under minor revision

   IEEE Transactions on Cybernetics (**IF: 11+**)

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

Conference Paper

M Usman Maqbool Bhutta*, Shoaib Aslam, Peng Yun, Jianhao JIAO, Ming Liu

Oct 2020

   IEEE/RSJ International Conference on Intelligent Robots and Systems (**IROS 2020**)

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 (**IEEE-CYBER 2018**), 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 2014**).

Efficient Reset Design Techniques

Journal Paper

Qamar, Zoha, Bushra Yaseen, and Usman Maqbool

2015

   Published in Science International Lahore