

Abdul Malik Badshah

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Passionate Software Programmer and Machine learning Researcher with a demonstrated history of working in the computer software industry. Skilled in Computer Vision, Machine Learning/Deep Learning, Augmented Reality, Mobile Application Development (Interactive Games specifically), and Speech Analysis. Strong engineering professional with a master's degree focused on Computer Engineering from Sejong University with a dissertation/thesis titled "A Study of Hand-Crafted and Deep Features for Speech Emotion Recognition".

Experience

AUGUST 2017 – PRESENT

Software Developer / Anarchy.io, Seoul, South Korea

- Explored multiple machine learning and Deep learning approaches/models for object detection and recognition. Developed Algorithms for computer vision based applications for Mobile devices and Tabs.
<https://factoschule.com/html/main.html> || <https://factoschule.com/html/app.html?tab=1>
[factoschule/youtube1](https://factoschule.com/html/youtube1) || [factoschule/youtube2](https://factoschule.com/html/youtube2)
- Worked on a "Miniature AR" project with ETRI to augment ski-related objects on a miniature mountain in a newly built museum in Nowon-gu.
- Worked on multiple projects focused mainly on E-Smart learning including Interactive SMART boards and pens for Educational Purposes.
- Developed Interactive Learning Applications for kids and adults in collaboration with ETRI using Augmented Reality with Kinect sensors for skeleton detection, Computer vision for scanning 2D drawings, and Unity Game Engine to transform the scanned 2D drawing into 3D interactable objects.

SEPTEMBER 2015 – AUGUST 2017

Research Assistant / Intelligent Media Lab, Sejong University, Seoul, South Korea

(Digital contents Research Institute, Sejong University, Republic of Korea)

- Used Machine learning techniques i.e., SVM-Support Vector Machines, Random Forest, and Decision trees to spot Emotions in Speeches.
- Used Deep Learning CNN (Convolutional Neural Networks) for Speech Emotion Recognition to further enhance the results.
- Tested and compared both Traditional and deep learning-based approaches for telephonic speech analysis, gender recognition, and age estimation from speech signals.
- Validated the mentioned approaches and successfully published them in a few conference proceedings and recognized scientific journals that are cited by hundreds to date.
- Partially Worked on OLAP-Online analytical processing software – C# with XML

OCT 2013 – AUGUST 2015

Software Developer (Gameplay Programmer) Unity / Pentaloop Inc.

AUGUST 2013 – MARCH 2014

Software Developer (Gameplay Programmer) / HalfBytes Studios

Responsibilities:

- Gameplay Programming (C#): Physics, AI, Rendering, Android optimization (Draw Calls). Tools development (Editor Classes). Scene editing and level Building
- Developed UI's based on designer specifications.
- Constructed solutions to unforeseen design problems in a timely manner.

Education

AUGUST 2017

Masters of Engineering (Computer Science) / CGPA 4.14 / 4.5

Digital Contents Research Institute, Sejong University, Seoul, South Korea

Dissertation title: "A Study of Hand-Crafted and Deep Features for Speech Emotion Recognition"

AUGUST 2013

Bachelor's Degree in Computer Science / CGPA 3.90 / 4

Islamia College Peshawar, KPK, Pakistan

Graduation Project: "2d Android Game with native language i.e. Java, with eclipse Ide"

Publications

[Badshah, Abdul Malik, et al. "Speech emotion recognition from spectrograms with deep convolutional neural network." 2017 international conference on platform technology and service \(PlatCon\). IEEE, 2017. \[Cited by 316\]](#)

[Badshah, Abdul Malik, et al. "Deep features-based speech emotion recognition for smart affective services." Multimedia Tools and Applications \(2017\): 1-19. \[Cited by 119\]](#)

[Badshah, Abdul Malik, et al. "Divide-and-conquer based ensemble to spot emotions in speech using MFCC and random forest." arXiv preprint arXiv:1610.01382 \(2016\).](#)

https://www.researchgate.net/publication/338094197_A_Study_of_Hand_Crafted_and_Deep_Features_for_Speech_Emotion_Recognition

Skills & Areas of Interest

- Computer Vision
- Augmented Reality
- Application Development
- Research & Development
- Machine Learning / Deep Learning
- Speech Emotion Recognition
- Natural Language Processing
- Game Development / Educational Games

Tools & Technologies

- C, C++, C#, Java, Python
- Unity3D, OpenCv, Kinect - AR
- Android Studio, Visual Studio
- Matlab, Tensor Flow, Caffee, Weka, PyTorch

Achievements

- Our computer vision-based Smart Games got second position in All Korea innovative games.
- A game I developed "**Mind your Path-Mouse Puzzle**" stood runners up in All Pakistan djuice Opportunity 2014 supported by Microsoft
- **Microsoft Student Partner, July 2012 – July 2013** Microsoft Pakistan.
- Secured 2nd position- a **silver medal** for the degree Bachelor's in Computer Science Department of Computer Science Islamia College Peshawar
- Vice President of Science and Technology Society ICUP
- Sub-coordinator Video Conferencing Lab ICUP
- Got 1st position at Nisar Shaheed Degree College in HSC (Computer Science department)