

# Babak Maser, M.Sc

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📄 [bmaser.github.io/](https://github.com/bmaser)

**Computer Vision & Machine Learning Engineer**

## Affiliation

Student of Joint M.Sc. program in [Applied Image and Signal Processing \(AISP\)](#), [Department of Computer Science](#), [University of Salzburg](#) and Salzburg University of Applied Sciences (Fachhochschule Salzburg).

## Experience as a Computer Vision researcher

2019|present

**Wavelab(The Multimedia Signal Processing and Security Lab),**  
*Research student,*

*I am researching as part of my master thesis under the supervision of Univ.-Prof. Dr. Andreas Uhl the head of [Wavelab](#). The research projects are as follow: .*

- Texture classification using deep learning (current project) (2020)
- Finger vein classification based on texture descriptors. (2019)
- Sensor Identification and detecting spoof images (2018)
- PRNU-based finger vein sensor identification. (2018)
- Survey on effect of various compression techniques on texture classification. (207/18)

## Deep learning Project

2019|present

**TensorFlow Framework .**

- Classification of Image digits with SVHN dataset. [[github demo](#)]
- Classification of satellite images using EuroSAT dataset (including residential, industrial, highway, river, forest, pasture, herbaceous vegetation, annual crop, permanent crop and sea/lake images)
- Pet Classification using Transfer learning with Dogs vs Cats dataset (2013 Kaggle competition).
- Scene Classification on LSUN dataset and CIFAR-100 dataset (with a focus on Tensorflow and Keras data processing tools)
- Classification of fashion article images using a *custom model with custom layers* (Residual Network). [[github demo](#)]
- Implementing the neural style transfer (NST) algorithm and Generating novel artistic images.

2017/18

**Pytorch Framework .**

- Detection of Morphed Face Images using Deep learning. This project was done by Pytorch framework (Academic project)
- People counting using UCSD Pedestrian dataset with deep learning approach, 2017. (The project is part of Computer Vision proseminar course).

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## Publication

Following publications are results of research projects which have been done by me and my colleagues under supervision of Univ.-Prof. Dr. Andreas Uhl, the head of [Wavelab](#), "The Multimedia Signal Processing and Security Lab".

2019

- ICB 2019 [1] **PRNU-based finger vein sensor identification On the effect of different sensor croppings**, In *Proceedings of the 12th IAPR/IEEE International Conference on Biometrics (ICB'19)* (pp. 1-8), as a second author.
- IWBF 2019 [2] **PRNU-based Detection of Finger Vein Presentation Attacks**, *2019 7th International Workshop on Biometrics and Forensics (IWBF)*. 2019, as a first author.
- ICBEA 2019 [3] **Finger Vein Image Compression With Uniform Background**, In *Proceedings of the 2019 3rd International Conference on Biometric Engineering and Applications*, pp. 23-27. 2019, as a first author.
- ARW/OAGM 2019 [4] **PRNU-based Finger Vein Sensor Identification in the Presence of Presentation Attack Data.**, *Proceedings of the Joint ARW/OAGM Workshop 2019 (ARW/OAGM'19)*. 2019, as a first author.

2018

- BIOSIG 2018 [5] **Finger-vein sample compression in presence of precompressed gallery data.**, *2018 International Conference of the Biometrics Special Interest Group (BIOSIG)*, IEEE, 2018. Darmstadt, Germany, as a second author.

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## Licenses & Certifications

- Coursera
  1. **Convolutional Neural Networks**,  
Credential ID: QCNF57NK42RB , [link to Credential](#)
  2. **Improving Deep Neural Networks: Hyperparameter tuning, Regularization and Optimization**,  
Credential ID: ZNQ2Q6EFS45R , [link to Credential](#)
  3. **Structuring Machine Learning Projects**,  
Credential ID: A66WASZZ7TVN , [link to Credential](#)
  4. **Neural Networks and Deep Learning**,  
Credential ID: YRT3H5H23E6A , [link to Credential](#)

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## Academic Project

1. Measurement of pennation angle (PA) of pinnate muscle, winter semester of 2016, (The project is part of Medical Imaging course)
2. A Survey on effect of pre-processing and feature extraction on Finger-vein recognition using SIFT, SURF, BRIEF and ORB. 2017/18 (The project is part of Biometric Systems proseminar course).
3. Semantic word vectors using word2vec, 2018. (The project is part of Pattern Recognition course).

## Past Working Experience in IT Industry

- 03-2014|10-2015 **Knauf Company**,  
*System Analyst and IT expert.*
- 2008,2011-2013 **University of applied science and technology, Department of Computer Engineering** ,  
*Adjunct lecturer.*
- 03-2009|03-2011 **S.A.T Co. Ltd.**,  
*Project/Product manager and system analyst,*  
product owner of a broadcasting product(News casting) .
- 06-2008|02-2009 **Jooya Informatics Group**,  
*System Analyst and product owner,*  
Providing a total solution for digitizing TV stations.

## Education

- 2015-Present Student of joint M.Sc. Applied Image & Signal Processing, Department of computer Science, University of Salzburg and Salzburg University of applied Sciences, Austria.
- 2005-2008 M.Sc. in Computer Science, Department of Computer Science, Fergusson College, University of Pune, India.

## Technical Skill

- **Current skill:**
  1. Programming Language and Libraries: Python, OpenCV-python, Scikit-image, scikit-learn, Numpy, Scipy,
  2. Deep Learning framework: Keras/tensorflow 2.X
  3. Tools: Pycharm, Github, Gnu-plot, matplotlib, Latex.
- **Past skill:** I worked and learnt many programming languages and tools in the past, these are as follow: Core Java, Visual Basic, C++ (linux), C, HTML, CSS, Haskell (Gofer dialect), Lisp, Prolog, MS-SQL, Linq and, Design and analysis Tools: UML, Enterprise Software Architecture.

## References

Available on request.