# ZHANG, Hongzhen

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**My Personal Website:** Hongzhen's Personal Website (hongzhengit.github.io)

## Education Backgrounds

**Tianjin University (member of 985, 211 universities)** *2017.09 – 2020.01, GPA: 85/100*

Master's degree of Engineering, affiliated with State Key Laboratory of Precision Measuring Technology and Instruments

**Xiamen University (member of 985, 211 universities)** *2013.09 – 2017.06, GPA: 82/100*

Bachelor's degree of Engineering, Major in Photoelectronic Measurement Technology

Double degree of Economics, Minor in Mathematical Statistics

## Publications

• **Extension of Terahertz Time Domain Spectroscopy: a Micron-level Thickness Gauging Technology**
  **Hongzhen Zhang**, Lili Shi, Mingxia He[*]. *Optics Communications*, 506 (2022) 127597.

• **Terahertz Thickness Measurement Based on Stochastic Optimization Algorithm**
  **Hongzhen Zhang**, Mingxia He[*], Lili Shi, Pengfei Wang. *Spectroscopy and Spectral Analysis*, 40(2020) 3066-3070.

• **A terahertz non-polar material detection technology based on Rouard's Method**
  with Mingxia He, Lili Shi and Pu Wang. *Invention patent*, Patent No. CN201910303091.9, Waiting for granting.

• **A thickness measurement technology developed with terahertz spectrum**
  with Mingxia He, Lili Shi and Pu Wang. *Invention patent*, Patent No. CN201811197783.1, Granted.

• **A multispectral imaging device for the Meibomian glands of human eyes**
  with Yanping Chen, Tianyu Zheng and Yifan Yang. *Invention patent*, Patent No. CN201610250677.X, Granted.

## Research Experiences

**Research on the applications of heuristic algorithms in information extraction methods for Terahertz Spectra**
*Tianjin University, Funded by National Natural Science Foundation of China (NSFC) (Grant No.61675151).*

**Research on a multispectral imaging device for meibomian glands of human eyes**
*Xiamen University, Undergraduate research project.*

**Research on HAR (Heterogeneous Autoregression) models for Shanghai Composite Index**
*Xiamen University, Graduation thesis for my double degree of Economics.*

## Working Experiences

**Discover Financial Service (DFS, Shanghai COE)** *Senior Analyst, 2020.03 – 2022.07*

• *Project 1*: Developed a Time Series Forecast Model for home loan application volumes to catch the increasing trend in home loan market and help with the future workforce management.

• *Project 2*: Constructed a Neural Network compliant recognizer based on pre-trained Bert model, combined it with a Random Forest classifier to allocate customers' complaints into specific categories automatically.

• *Project 3*: Designed and built a Data Management Platform with PyQt framework for structuring and maintaining invoice data from third-party vendors.

**Analog Devices (ADI, Beijing Office)** *Part-time Algorithm Intern, 2019.07 – 2020.01*

• Borrowed the c-Lasso algorithm from Muhammad Tabassum (2018) to get a simplified Generalized Memory Polynomial (GMP) Model with sparse parameters.

## Awards

• Innovation Award at Discover Financial Service

• Excellence Award at Discover Financial Service

• 1st prize of China National Mathematical Modeling Competition (Undergraduate Group)

## Programming Skills

I have solid skills in Python, MATLAB and SQL language and I am also familiar with R software. For more information about myself and my research/working experiences, please check my personal website https://hongzhengit.github.io/.