# Songqi MA

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## Education

**Univ. of Sci. & Tech. Beijing** **Communication Engineering** **2020.09-2024.06**

Score：88.22；GPA：3.72；Ranking：17/141（12.06%）；CET4：567；CET6：540

Main Course：Signal Estimation & Detection：98；Mobile Communication：96；DSP：90;

Honor Award：Renmin Secondary Scholarship；3 Goods Student；Freshman Scholarship

## Research Experience

**UCAS - ICT - Distrubuted System Research Center -- Research Intern** **2023.05 -- 2023.08**

**Work Responsibility：**In the area of Integration of Computing and Communication，Use Docker+K8S Micro server to develop 5G UDSF，SCP Network Function

- Study 3GPP Release 16 Standard, Virtualization the 5G Protocol Network Function, Implementation stateless network request and inter-service communication proxy module.

**Visible Light Imaging Positioning -- USTB Light Communication Laboratory** **2022.05 -- 2023.04**

**Introduction**：OOK Modulation in Transmitter, CMOS Demodulation in Receiver, Distinguish LED-ID, Using LED Image Coordinate to derive user Real location, Write a English Paper as the first author.

Innovation: 1）Derive the Max Access amount and corresponding Frequency distribution from Theory
2）Improve the LED-ID recognition algorithm；3）Propose a Image Binary algorithm for Uneven Light

- **Experiment：**LED-ID recognition rate: 98.9%，Algorithm speed: 0.014s，50cm Location Average Error:0.14cm

**Comparative study on Audio Denoising -- Beijing SRT Program** **Leader** **2023.01 -- Now**

Introduction：Summarize Noise and Denoising Algorithm, using Objective/subjective indication to Compare the performance of different Denoising algorithmto different noise,

- Classifying noise based on its temporal, spectral and statistical characteristics, conducting feature analysis on common speech noise
- categorize audio denoising methods into three types: time-domain processing, frequency-domain processing, and deep learning. We select seven representative methods from these categories for software implementation
- generate a noisy dataset and select subjective and objective evaluation metrics to evaluate the denoising performance of audio denoising methods under different noise environments

## Competition Experience

**Analysis of the Composition of Ancient Glass -- CUMCM National First Prize** **2022.07-2022.10**

**Introduction:** Extract features from small sample data of ancient glass using Data Analysis and ML methods.

**Signal Distrotion & Modulation Degree Estimater -- NUEDC Team Leader** **2022.03-2022.06**

**Introduction:** Using STM32 ADC to sampling the signal, analyze the signal distortion and modulation degree.

## Personal Skill

- **Software Skill：**C++，Python，Matlab，SQL，Linux，Docker，K8S；have a nice programming project skill
- **Hardware Skill：**STM32，FPGA，Raspberry, familiar with Tina、Multisim Simulator
- **Hobby**: Guitar, Basketball, Boxing, History...

## Competition Awards

- National Mathematical Modeling Competition for College Students -- First Prize 2022.09
- National Mathematical Competition for College Students -- Third Prize 2021.12
- C4 Network Technology Challenge Competition -- Second Prize in Northern Division 2022.07
- TI Cup Beijing Undergraduate Electronic Design Competition -- Beijing Third Prize 2022.11