

# AERMAN TUERXUN

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## EDUCATION

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- Master of Art and Science** | *Local 5G, Network Analysis* Apr. 2020 ~ Present  
Supervised by Professor Akihiro Nakao  
University of Tokyo | Tokyo, Japan
- Research Student** | *Local 5G* Apr. 2019 ~ Mar. 2020  
Supervised by Professor Akihiro Nakao  
University of Tokyo | Tokyo, Japan
- Bachelor of Engineering** | *Information Security* Sept. 2014 ~ June 2018  
Graduation Thesis: Routing Algorithm in Disaster Relief Based on NDN Networks  
University of Science and Technology of China | Anhui, China

## PUBLICATION

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- Design and Manufacture of Narrow-Band BPF for Local 5G Network Slicing**  
*Aerman Tuerxun*, Ping Du, Junji Yumoto, Akihiro Nakao, 4th International Workshop on Advances in Slicing for Softwarized Infrastructures, IEEE International Conference on Network Softwarization, 2021
- Analysis on Route Information Failure in IP Core Networks by NFV-Based Test Environment**  
Fei Xia, *Aerman Tuerxun*, Jiaxing Lu. Ping Du, Akihiro Nakao, ITU Journal on Future and Evolving Technologies special issue on AI and machine learning solutions in 5G and future networks, 2021
- Automatic Check-In Service at Businesses Enabled with Private Mobile Networks**  
Ping Du, *Aerman Tuerxun*, Anan Sawabe, Takanori Iwai, Akihiro Nakao, IEEE Global Communications Conference (Globecom), 2020.
- MANET for Disaster Relief Based on NDN**  
Yang Jin, Xiaobin Tan, Weiwei Feng, Jinyang Lv, *Aerman Tuerxun*, Kunpeng Wang, 2018 1st IEEE International Conference on Hot Information-Centric Networking (HotICN). IEEE, 2018.

## PROJECTS AND RESEARCH

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- BPF Design and Implementing Using 3D Printing** | *CST, AWR, ANSYS* Sept. 2020 ~ Present  
University of Tokyo | Tokyo, Japan  
Aim to design 3D printable narrow-band BPF to slice the sub-6 band narrowly and flexibly to achieve the narrow-band spectrum allocation.
- Features Extraction and Analyzing on Route Information** | *Python* July. 2020 ~ Dec. 2020  
University of Tokyo | Tokyo, Japan  
Efficiently extract features from large-scale unstructured data, refine features based on features' importance, and predict BGP failures using machine learning methods.
- Analyzing of Private Networks Check In-Out Log Data** | *Python, MATLAB* Feb. 2020 ~ Aug. 2020  
University of Tokyo | Tokyo, Japan  
Design and implement the automatic check-in service as an example of value-added services of private mobile networks utilizing the flexibility of softwarization. Machine learning-based inference mechanisms can predict users' check-out behavior at an inference accuracy of 83% and 93% in a private network and a hybrid one separately.
- Children Abuse Detection Based on Interviewing Data Using NLP** | *Python* Apr. 2021 ~ Present  
Doctoral Institute for Evidence Based Policy | Tokyo, Japan  
Use machine learning technique BERT for NLP to detect Children abuse based on children and parents interviewing data.
- Japanese Characters Recognition on Whiteboard Data Collection** | *Python* Dec. 2019 ~ Nov. 2020  
Doctoral Institute for Evidence Based Policy | Tokyo, Japan

Use CNN-based machine learning method to collect, recognize, and summarize data written on the whiteboard with Japanese characters in The East Japan Ministry of Agriculture, Forestry and Fisheries.

**Implementing NDN Based Routing on Raspberry Pi** | *Python, C++* Oct. 2017 ~ May. 2018

University of Science and Technology of China | Anhui, China

Propose a proactive routing protocol, which is also reactive-routing-enabled, to adopt NDN for communication in the specific context of disaster relief. Carry out the experiments in a real platform consisting of some smart cars equipped with Raspberry Pi.

## PRESENTATION AND TECHNICAL REPORT

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**Design and Manufacture of Narrow-Band BPF for Local 5G Network Slicing** June 28, 2021

4th International Workshop on Advances in Slicing for Softwarized Infrastructures,  
IEEE International Conference on Network Softwarization, 2021 | Online

**Design and Manufacture of Narrow-Band BPF with 3D Printing** March 5, 2021

IEICE Technical Report for Network System, March 2021. | Tokyo, Japan

## GRANTS & AWARDS

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**Bronze Champion in ITU AI/ML in 5G Grand Challenge Finale** Dec. 2020

ITU | Online

**Best Performance Award in ITU AI/ML in 5G Challenge of Japan** Nov. 2020

Tokyo, Japan | Online

**New Great Wall Self-Improvement Grant** 2014 ~ 2018

University of Science and Technology of China | Anhui, China

**Xinjiang Ethnic Minority Grant** 2016 ~ 2018

University of Science and Technology of China | Anhui, China

**Entrance Scholarship** Oct. 2014

University of Science and Technology of China | Anhui, China

## TEACHING EXPERIENCE

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**Lecturer of Algorithm, Computer Networks and Computer System** 2019 ~ Present

Kakuchi Academy | Tokyo, Japan

**Tutoring Mathematics, Physics and Programming for High School Students.** 2016 ~ 2018

USTC | Hefei, China

## COMMUNITY INVOLVEMENT

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**Online Network Service for Students in Hotels and Dormitories.** 2018 ~ 2019

ThreePro Group Inc (GiG Works Inc) | Tokyo, Japan

**Volunteering in Fangcao Young Volunteers Association of USTC** 2015 ~ 2018

The University of Science and Technology of China | Anhui, China

## LANGUAGE SKILLS

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**Uyghur:** Native (Mother Tongue)

**English:** TOEFL 100 (R:27, L:26, S:22, W:25)

**Chinese:** Native

**Japanese:** Fair (N2 Level)

## TECHNICAL SKILLS

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**Programming:** Python, C, C++, MATLAB

**Document Creation:** Microsoft Office Suite, LaTeX

**Electronic and Microwave:** AWR, CST, ANSYS