

# Junjie Fei

PHD

Jiddah, Saudi Arabia

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## Education

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### King Abdullah University of Science and Technology

Jiddah, Saudi

PhD in Computer Science

Aug. 2024 - Current

- **Courses:** Low-Resource Deep Learning

- **Project:** 3D MLLMs for Grounded Captioning, Multi-Image Reasoning in Visual Documents

### Xiamen University

Xiamen, China

Master of Engineering in Electromagnetic Field and Microwave Technology

Sept. 2020 - Jun. 2023

- **Overall GPA:** 3.59 / 4.00

- **Courses:** Numerical Analysis, The Design and Analysis of Algorithms, Deep Learning, Modern Electronics Technique

- **Final Year Research Project:** Fast Electromagnetic Imaging Based on Deep Learning

### Chongqing University

Chongqing, China

Bachelor of Engineering in Telecommunication Engineering

Sept. 2016 - Jun. 2020

- **Overall GPA:** 3.17 / 4.00

- **Courses:** Advanced Mathematics, Linear Algebra, Complex Function and Integral Transformation, C/C++ Programming, Java Programming, Computer Composition Principle, Computer Communication Network, Signals and Systems, Digital Signal Processing

- **Final Year Research Project:** Filter Design Based on Genetic Algorithm and Gradient Descent Algorithm

## Academic Experiences

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### King Abdullah University of Science and Technology

Jiddah, Saudi Arabia

Remote Visiting

Dec. 2023 - May 2024

- Engaged in research on multimodal learning at the Vision CAIR, KAUST.
- Project: 3D MLLMs for grounded captioning.

### Southern University of Science and Technology

Shenzhen, China

Research Assistant

Jun. 2023 - Dec. 2023

- Engaged in research on multimodality and AIGC at the Vision-Language Group and AIGC Group, VIP Lab, SUSTech.
- Project: Multi-concept generation for personalized image, Controllable image captioning.

### Southern University of Science and Technology

Shenzhen, China

Visiting Student

Oct. 2022 - Mar. 2023

- Engaged in research on multimodal learning at the Vision-Language Group, VIP Lab, SUSTech.
- Project: Retrieval-augmented zero-shot image captioning (ICCV 2023), controllable and interactive image captioning (technical report).

## Publications

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(\* equal contribution)

- [1] Jun Chen\*, Dannong Xu\*, **Junjie Fei\***, et al, *Document Haystacks: Vision-Language Reasoning Over Piles of 1000+ Documents*, arXiv 2024.
- [2] **Junjie Fei\***, Mahmoud Ahmed\*, Jian Ding, et al, *Kestrel: Point Grounding Multimodal LLM for Part-Aware 3D Vision-Language Understanding*, arXiv 2024.
- [3] **Junjie Fei\***, Teng Wang\*, Jinrui Zhang, et al, *Transferable Decoding with Visual Entities for Zero-Shot Image Captioning*, International Conference on Computer Vision (ICCV) 2023, accepted 2023.
- [4] Teng Wang\*, Jinrui Zhang\*, **Junjie Fei\***, et al, *Caption Anything: Interactive Image Description with Diverse Multimodal Controls*, arXiv 2023, technical report.
- [5] Feng Han, Miao Zhong, and **Junjie Fei**, *Hybrid Microwave Imaging of 3-D Objects Using LSM And BIM Aided by a CNN U-Net*, IEEE Transactions on Geoscience and Remote Sensing (2 Year IF: 8.125, ranking: 42/708), accepted 2022.
- [6] **Junjie Fei**, Yanjin Chen, Miao Zhong, et al, *Fast 3-D Electromagnetic Full-Wave Inversion of Dielectric Anisotropic Objects Based on ResU-Net Enhanced by Variational Born Iterative Method*, IEEE Transactions on Antennas and Propagation (2 Year IF: 4.824, ranking: 71/708), accepted 2022.

## Skills

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**Programming** Python, C++

**Toolkit** Pytorch, Tensorflow, SSH, Git, Matlab, LaTeX

**Language** CET-6, IELTS: 6.5

## Achievements

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2024 - ~	<b>KAUST Graduate Scholarship</b> , KAUST	Saudi Arabia
2023.04	<b>Cai Wenzhong Second Class Scholarship</b> , School of Electronic Science and Engineering, Xiamen University	China
2022.11	<b>Graduate Academic Scholarship</b> , Xiamen University	China
2021.11	<b>Graduate Academic Scholarship</b> , Xiamen University	China
2020.11	<b>Graduate Academic Scholarship</b> , Xiamen University	China
2019.06	<b>Good</b> , The 10th Student Research Training Program (SRTP)	China
2018.11	<b>Second Prize</b> , The 10th Chinese Mathematics Competitions (Non-Mathematics)	China

## Academic Services

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### Conference and Journal Review

NeurIPS, ICLR, IEEE TMM, Neurocomputing

### Teaching Assistant in Electronic Circuit

Xiamen, China