# Rui (Rick) Xie

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(Updated Jun. 2022)

## EDUCATION

- **B. Eng (Honor Class), Southern University of Science and Technology** — Shenzhen, China
  *Advisor: Quan Chen* — *Aug. 2018 – Jun. 2022*

## EXPERIENCE

- **University of Oxford** — Oxford, United Kingdom
  *Oxford International Study Abroad Programme* — *Jul. 2019 – Aug. 2019*
  - **Big Data and Social Media**: R Programming and Data Analysis.
  - **University, Tutorial System and Interdisciplinary**: Research on Mass Psychology and Higher Education.
- **The University of Hong Kong** — Remote
  *Online Summer Research (Host: Zhongrui Wang)* — *Jun. 2021 – Aug. 2021*
  - **Feedback States Convergence Adjustment of Memristor**: Adjust the device to I-V curve.
  - ***ARC One* Implementation**: Converge method of memristor device on *ArC ONE* and Keysights B1500A.

## RESEARCH INTERESTS

- **EDA Circuits Simulation**
  *Electronic Design Automation*
  - **Steady-State Memristor Crossbar Array (MCA) Circuit Simulation**:
    1. Exploited the structural regularity of MCAs to develop preconditioner;
    2. Designed the inverse process by Kronecker product and block matrix formula;
    3. Tested the numerical verification of the flow;
    4. Obtained a Fund of **10,000 CHY**.
  - **Surrogate Modeling of Electro-Thermal Simulation**:
    1. Used *Ansys Icepak* and simulated the process of SiC sandwich devices;
    2. Designed the surrogate model.
  - **RRAM (Resistive RAM) Non-Ideal Simulation**:
    1. Designed the multiply-add method;
    2. Developed the simulator by noise model and non-linearity.

## HONORS AND AWARDS

- **Graduation with Honor: College Graduate Excellence Award** — Jun. 2022
  *School of Microelectronics, SUSTech*
- **First Class of the Merit Student Scholarship** — Sep. 2021
  *SUSTech* — $< 3\%$
- **Outstanding Cadre Award of Zhicheng College** — May. 2021
  *Zhicheng College, SUSTech* — $3\%$
- **First Prize of College Student Innovation and Entrepreneurship Training Program** — Mar. 2021
  *School of Microelectronics, SUSTech* — $10\%$
- **Second Class of the Merit Student Scholarship** — Sep. 2020
  *SUSTech* — $< 7\%$
- **Third Prize of China College IC Competition in Southern China** — Jul. 2020
  *Ministry of Industry and Information Technology* — $< 10\%$
- **Third Class of the Merit Student Scholarship** — Sep. 2019
  *SUSTech* — $< 20\%$

## SKILLS

- **Programming Languages**: Python, MATLAB, C, Java, Verilog HDL, Scala
- **Software**: Virtuoso, Quartus, ModelSim, Icepack, Silvaco, LTSPICE, Comsol, SolidWorks, AutoCAD
- **Spoken Languages**: Mandarin, English, Cantonese, Japanese (Learning)

## PUBLICATIONS

1. **Xie, R.**, Song, M., Zhou, J., Mei, J., & Chen, Q. (2021). A Fast Method for Steady-State Memristor Crossbar Array Circuit Simulation. IEEE ICTA 2021

## PATENTS

1. Chen, Q. Fan, D. **Xie, R.** Song, M. Construction and optimization of neural networks for memristor arrays based on circuit simulation. CN 202110673101.5 (Pending)