

# Zhendong ANG

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<https://ang9876.github.io/>

## EDUCATION

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2022.08 - present **National University of Singapore, Singapore**

Ph.D. in Computer Science

**Adviser:** Prof. Umang Mathur

2019.09 - 2022.07 **École Polytechnique Fédérale de Lausanne, Switzerland**

M.Sc. in Computer Science

2015.09 - 2019.06 **Zhejiang University, P. R. China**

B.Sc. in Computer Science

## INTERNSHIP

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2021.07 - 2022.01 **Oracle Labs, Zürich**

- Implement Intel Memory Protection Key (MPK) protection for MultiLingual Engine (MLE)

## PUBLICATIONS

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POPL 2024 **Zhendong Ang**, Umang Mathur. “Predictive Monitoring against Pattern Regular Languages.”

CPP 2024 Qiyuan Zhao, George Pirlea, **Zhendong Ang**, Umang Mathur, Ilya Sergey. “Rooting for Efficiency: Mechanised Reasoning about Array-Based Trees in Separation Logic.”  
2024 CPP Distinguished Paper Award

## AWARDS

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2024 NUS School of Computing Research Achievement Award

## PROJECTS

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2022.02 - 2022.07 **Macro Annotations for Scala 3 (EPFL LAMP – Programming Methods Laboratory)**

- Designed patterns and APIs for macro annotations in Scala 3.
- Implemented macro annotations expansion.

2021.03 - 2021.07 **ScalaPy Related Projects (EPFL LAMP – Programming Methods Laboratory)**

- Created Numpy interface in Scala using ScalaPy and explored pattern of type facades.
- Migrated ScalaPy to Scala 3: refactored the code and used macros in Scala 3.
- Supported exposing custom Scala types to Python.

2020.09 - 2021.01 **Extending GADTs support in Scala 3 (EPFL LAMP – Programming Methods Laboratory)**

- Explored how subtype, class type parameters, and GADTs work in Dotty.
- Added GADTs constraint to class type parameters.
- This new feature has been merged into Scala 3.

## TALKS

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2024.01 **Predictive Monitoring against Pattern Regular Languages.** POPL 2024

2024.01 **Predictive Monitoring against Pattern Regular Languages.** NUS PLSE Seminar

2023.07 **New Results of Membership Problems for Trace Languages.** Highlights of Logic, Games and Automata