Xuanyu Peng

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Education

09/2019 - present

Peking University, Beijing, China

- **Turing Class**, Major in Computer Science
- School of Electronics Engineering and Computer Science (EECS)
- GPA : ***/4.0
  - Rank : **th/~300
  - Major course GPA: ***/4.0

09/2016 - 06/2019

The Attached Middle School of Jiangxi Normal University, Nanchang, China

09/2013 - 06/2016

Ganzhou No.3 Middle School, Ganzhou, China

Research Experience

03/2021 - present

Program Languages Lab, Peking University, Beijing, China
Research assistant, supervised by Prof. Yingfei Xiong
Topics: Program Synthesis, Program Calculus

Scholarships and Awards

In University

Gold Award(7th place), The 44th ACM-ICPC Asia Regionals Xuzhou Site 2019
Silver Award, The 5th CCPC Xiamen Site 2019
Peking University Third-Class Scholarship 2020
Peking University Three Good Student 2020
Ubiquant Scholarship 2021

In Senior High School

Bronze Prize, The 2018 National Olympiad of Informatics
Silver Prize, The 2018 Asia-Pacific Informatics Olympiad **First Prize (1st Place)**, The 2017 National Olympiad of Informatics in Jiangxi Province
Bronze Prize, The 2017 National Olympiad of Informatics

Projects

09/2021 - present

Efficient Algorithm Synthesis Guided by Automatically-Generated Traces

- We create a concrete solver that solves constraint programming problems with given parameter values and generates the solution trace at the same time.Then we generalize these traces to an efficient program that corresponds to the solution of the original problems.
- It is envisaged that some classic algorithmic problems, such as the Longest Common Sequence and 01-Knapsack, will be successfully synthesized.

04/2021 - present

Dataset of Formalized Algorithmic Problem (use Minizinc)

- We have formalized 50+ problems from NOIP-J/S (Chinese National Olympiad of Informatics for Junior/Senior High School Students). The final goal of dataset size is 200+.
- This dataset will be used as a new benchmark for constraint solvers

04/2021 - 07/2021

Automated Algorithm Synthesis via Constructive Algorithmics: Starting from Lifting Problems

- Inductive algorithm synthesis of divide and conquer.
- I help the leader of the project with the experiment.