

# YIFEI HUANG

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- 7+ years programming experience on Linux environment, frequent user of C++ and Python language.
- Be able to implement the commonly used machine learning and deep learning algorithms, familiar with Numpy, Tensorflow and other modules.
- Github: <https://github.com/easyfly007>
- website: <https://easyfly007.github.io>

## Experience

### **SYNOPTSYS (Shanghai) Co., Ltd**

Apr, 2010 - present

#### **Senior HSPICE Software R&D Engineer, Analog-Mixed-Signal-Group**

Maintain and enhance existing HSPICE (the industry golden circuit simulation tool) codes, daily support for customer requests. Works include:

- Circuit matrix stamping and solving support:  
Support the circuit list partition and matrix LU partition, element stamping and solving.
- HSPICE simulation run accuracy and speed enhancement:  
Support for multi-dimension control for simulator speed tolerance control
- HSPICE circuit net-list input projects:  
Using Lex/Yacc for the commands/element statements input.  
Create data structure from input file to simulator engine.
- Waveform and plain text format signal output files support:  
Invoking third-party API for specific format files generating (like PSF and WDF format).  
Using polymorphic inheritance methods and classes for different output formats handling.
- Transient simulation part codes FORTRAN to C++ reconstitution  
2 months' work and 10,000+ lines codes implemented.

#### **2017/05 – 2017/10 Using Machine Learning for Analog circuit recognition project.**

- Leader for a group with 3 engineers and 2 interns, responsible for the whole project flow, including member recruiting, data collection, algorithm implementation and final report.
- Use feature extraction and machine learning algorithm (logistic regression, decision tree, neural networks) and final accuracy 87%.
- Use Graph input based Convolution Neural Network + Attention Mechanism, completed end-to-end deep learning procedure. Final accuracy 95%.
- Python numpy and tensorflow modules used for this project.

#### **2017/07 – 2017/07 Using Clustering Algorithm to Improve QA Regression Testing.**

- Using function level coverage data as dimension input, do clustering for all the regression cases, and sample a smart regression list from the clustered result.
- Reduced the regression sample cases from 30,000+ to 500, significantly reduce regression run time from one day to one hour, remaining high code defect coverage.
- Finish the data processing, algorithm proposal, codes implementation and improvement.
- Python used for this project.

### **PDF Solutions (Shanghai) Co., Ltd**

Jul, 2008 - Apr, 2010

#### **Data Analysis Engineer**

- Data analysis for IBM 45/32nm advanced silicon process yield ramping project.  
Analysis for customer product data, provide yield improvement solutions to make sure process yield significantly improved and reach the client's target.

## Education

### **FUDAN UNIVERSITY**

- School of Microelectronics, Master degree

Sep, 2005-Jun, 2008

### **FUDAN UNIVERSITY**

- Department of Physics, Bachelor degree

Sep, 2001-Jun, 2005