# Ji Zhao

## *Energy engineer*

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Shaoxing, Zhejiang, China

## Skills

**Web Development** (HTML, CSS, Javascript, Typescript, Node, VUE, React, Git),
**Productivity Software** (Word, Excel, Microsoft Power point),
**Other Software** (Python, Matlab, Serpent)

## Education

**Institut Polytechnique de Paris (ENSTA Paris),**
*Nuclear Power Plant Design*
09/2021 – 09/2022 | Paris, France
Thesis: Development of methods for prediction of CHF in water-cooled reactors using machine learning.

**KTH Royal Institute of Technology,** *Engineering physics*
09/2020 – 09/2021 | Stockholm, Sweden

**North China Electric Power University,**
*Bachelor of Engineering In Nuclear Engineering and Technology*
09/2011 – 06/2015 | Beijing, China
Thesis research on the two-phase flow in a narrow rectangular tube.

## Awards

**EDF Science and Education Scholarship,**
*EDF & INSTITUT DE FRANCE*
01/03/2022

**EIT Energy Impact Scholarship,**
*The Institute of Sustainable Energy Foundation.*
04/05/2020
Full tuition waiver of the EIT InnoEnergy programme. The EIT is an integral part of Horizon 2020, the EU's Framework Programmes for Research and Technological Development.

**Star of Production Prize and Corporate Prize in Taishan Nuclear 2017 Action,**
*Taishan Nuclear Power Plant Joint Venture Company.*
2017
Optimise nuclear power plant document system process.

## Projects

**Master Thesis Project,** *Development of methods for prediction of CHF in water-cooled reactors using machine learning*
04/2022 – 09/2022

- Build and compare 3-4 machine learning algorithms and choose the best model to predict the Critical Heat Flux (CHF) in the reactor core for thermal-hydraulic design.
- Validate the model by using KTH lab experiment data. Compare the predicted ML results with verified correlations and the 2005 Look-Up Table (LUT) results.
- Present visualizations of the results by using common tools, like Python matplotlib and Seaborn.

Results: Successfully prove the traditional LUT CHF prediction is overtrusted and ML outperforms it.

**MC Simulation of a Xenon Oscillation in PWR**
02/2021 – 03/2021
Design a PWR core with the Montecarlo simulation tool to evaluate the effect of xenon oscillation in a 3D model.

**Link&Co and Geely Shopping Mall,**
*web / App based frontend project*
04/2019 – 10/2019
Develop a web-based Geely backstage management maintenance system with Vue.js. Some of the common visualization tools like charts are used. customize and deploy interactive customer side visualizations with front-end technologies.

## Professional Experience

**Frontend Developer,**
*Beijing Zhongyu Huaxing Science and Technology Co., Ltd.*
04/2019 – 10/2019

- Develop intelligent marketing platform for Geely Auto and Lynk & Co Auto (Owned by Geely & Volvo);
- Develop marketing assistant APP for Geely Auto;
- Develop client-side APP/Web about dealers and dashboard for employee performance.

**Field Operator/Reactor operator,**
*China General Nuclear Power Group*
07/2015 – 07/2018

- Daily plant inspection, operation and general experiment of power plant units;
- Commission and test power plant systems and equipment like HEX, valves, pumps and pipes.
- Training for the EPR nuclear power plant main control room reactor operator.

Results: Contribute to making the Taishan EPR unit the first operational 3rd generation unit.

Referee:
Moustapha Barry: moustapha.barry@edf.fr
Nuclear Energy Performance & Reliability Manager (Head) at EDF, France

## Languages

**Chinese** ●●●●●
C2

**English** ●●●●○
C1

**French** ●●○○○