Yang Nie

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OBJECTIVE

- A highly-motivated, organized and dedicated student to seek for admission into a Ph.D. Program in Computer Science in the area of Artificial Intelligence;

EDUCATION BACKGROUND

Beijing University of Posts and Telecommunications Sep.2008-Mar.2011
Master of Science in Signal and Information Processing Obtained in Mar.2011

The University of Tokushima Oct.2009-Sep.2011
Major: Systems Innovation Engineering **GPA:** 4.0/4.0
Master of Science in Systems Innovation Engineering Obtained in Sep.2011
Awards: International Exchange Scholarship, Ministry of Culture of Japan Sep.2009

Beijing University of Posts and Telecommunications Sep.2002-Jun.2006
Bachelor of Science in Information and Computing Science Obtained in Jun.2006

WORK EXPERIENCES

Sichuan Haoxunda Technology Co. Ltd Oct.2017-Present
Position: *Deputy General Manager and Technical Director*

✧ **Responsibility:**
- Be responsible for a series of work including research and development of technical products, management of technical departments and technical support of market

✧ **Project:** Research and Development of Handheld Terminal
- Realized the equipment identification using near-field technology of RF-ID, and located faults of equipment by means of image recognition
- Provided suggestions for the available maintenance methods through data processing technology and building expert recommendation system
- Reached the system requirement through improving the accuracy and intelligence of the recommendation system for maintenance and improving the image recognition accuracy under different environments
- Upgraded equipment maintenance efficiency and equipment status management

Chengdu UESTC Optical Communications Corporation Jun.2016-Sep.2017
Position: *Director of Software Department*

✧ **Responsibility:**
- Mainly took charge of staff management, arrangement and development of key department projects as well as recruitment of new staff

✧ **Project:** Automatic Testing System Based on AI Technology
- Conducted fully automated testing of electronic equipment
- Performed simulation test of electronic environment through presetting task system and generating testing schemes
- Simulated human operation by using mechanical arm and read data through image recognition
- Used machine learning method to analyze data and anomaly, and carried out early warning to implement the completely unmanned automated electronic equipment testing system
- Introduced method of deep learning for the first time to improve the recognition accuracy of random and complex images
- Established an effective data analysis model to control the test system and preprocess the original error data caused by test system, which effectively improved the accuracy of the final automatic judgment report

The 29th Research Institute of China Electronic Technology Corporation Oct.2013-May.2016
Position: *System engineer*
- Managed and led the R&D team to carry out the work on system design, system performance analysis and optimization
- Involved in the demonstration, design, optimization and analysis of multimodal electronic equipment
- Improved problems on validity of large data analysis through introducing the machine learning algorithms such as recognizing and removing noise signals, recognizing signal patterns, correctly classifying and clustering signals and so on
- Delivered multi-type electronic equipment successfully and improved the results of data analysis through the introduction of machine learning algorithm

Institute of High Energy Physics Chinese Academy of Science Apr.2011-Oct.2013
Position: *Software Engineer, Deputy Head of Software Group of HXMT Satellite Project*

✧ **Responsibility:**
- Developed the test system for effective payload of the satellite
- Led software group to work under command of chief designer of electronics to ensure the qualities of all software in the payload(deploy aerospace software standards)
- Helped and participated in the debugging work of others

- Formulated a reasonable R&D plan to improve the stability of the self-developed test system, the fast validity of large data analysis, and the rationality of the processing of heterogeneous data

✧ **Achievement:**

- Designed and completed a testing system for testing all functions of the electronic system including communication subsystem (connect three sub payloads of HXMT), data process subsystem (tackle with the data), asynchronous data distribution subsystem, display and control subsystem (corporate with a another colleague)
- Enabled the system to operate safely and be bug-free for 72 hours in the formal test
- Submitted the mission in time and found that there was only one system problem in all payloads, and it was not related to software

RESEARCH EXPERIENCES:

Graduate Researcher, State Key Laboratory of Electronic Thin Films and Integrated Devices, University of Electronics Science and Technology Jan.2018-Apr. 2019

Advisor: Prof. Wang Hai

Project: Compact Piecewise Linear Model Based Temperature Control of Multi-Core Systems Considering Leakage Power

✧ **Responsibility:**

- Assisted in carrying out the experiments and adjusting algorithms
- Adjusted and implemented the PCA(principle component analysis) algorithm in MOR（model order reduction）process
- Optimized the amount of principle component and corresponding calculation methods under different situations; expanded and implemented Taylor series algorithm
- Selected Taylor expansion points and obtained the result through offline integration of compact PWL(compact piecewise linear) thermal model matrices

✧ **Contents:**

- Proposed a new dynamic thermal management (DTM) method with compact piecewise linear (PWL) thermal model based predictive control to solve the nonlinear control problem
- Built a compact PWL thermal model by combining multiple local compact linear thermal models expanded at several Taylor expansion points
- Obtained local compact linear thermal models by sampling based model order reduction (MOR) with high accuracy and low computing cost
- Selected Taylor expansion points by a systematic scheme which exploits the thermal behavior property of the IC chips
- Put forward a new predictive control method based on the compact PWL thermal model to compute the future power recommendation for DTM
- Found that the new DTM could achieve an overall high quality temperature management with smooth and accurate temperature tracking by approximating the nonlinearity accurately with the compact PWL thermal model and being equipped with predictive control technique
- Demonstrated that the new method outperformed the linear model predictive control based method in temperature management quality with lower computing overhead

MS Graduation Design: New Solution for Near-duplicated Documents Detection Jul. 2010-Apr.2011

Advisor: Prof. Li Lei

- Applied one method LCS(longest common sequence), usually used in English near-duplicated document detection to calculate approximate text similarity and remove duplication documents
- Compared it with the classic VSM(Vector support machine) by applying random selected webpages and found that the result of algorithm of LCS was much better than the classic VSM
- Proved that the complexity of time and space of LCS is acceptable for the large scale computation

BS Graduation Design: Channel Capacity Estimation of Communication Systems Using MIMO Technology

Advisor: Nov. 2005-Apr. 2006

- Simulated the channel capacity using MATLAB and conducted the theoretical calculation to the channel capacity of the system
- Worked with other 2 of my classmates, complete an theoretical model of MIMO communication system
- Through simulation, proved that the MIMO technology was much more effective than applied technology in 2G and 3G.

PUBLICATIONS

Hai Wang, **Yang Nie,** *Compact Piecewise Linear Model Based Temperature Control of Multi-Core Systems Considering Leakage Power,* IEEE Transactions on Industrial Informatics (In Review)

Yang Nie, "New Solution for Near-duplicated Documents Detection", China Science and Technology, January 2011

PATENT

Lei Li, **Yang Nie,** Qing Zhao, 2011, "A Method for Detecting Text Repetition", China. Patent CN102081598B, Jun 1st, 2011

PROFESSIONAL SKILLS

Computer Skills: Java(13 yrs.), MySQL(10 yrs.), C/C++(5 yrs.), Oracle(5 yrs.), Python(5 yrs.), C#(3 yrs.), JavaScript(3 yrs.), PHP(3 yrs.), HTML5(3yrs)