Shi Guo

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SUMMARY

9 years of programming experience in c++ and Java in both research and industry.
5 years of computational physics research focusing on quantum Monte Carlo simulation.
6 years of experience in designing semiconductor testing program in c++/Java. Building and implementing test methodologies(DC, digital, RF) for different semiconductor devices.

SKILLS

Programming: C++, Java, Matlab, Python, Subversion Control(SVN, GIT), Linux Shell
Theory: Algorithms and Data Structure, Digital Signal Processing, Semiconductor Device Physics, Radio Frequency

EXPERIENCE

Application Engineer, Advantest America, Inc. July.2013- Feb.2020
Developed and delivered semiconductor device test programs on Advantest 93K tester platform for different customers.

Achievement Highlights

- Developed test methods in C++ and java for DC test, digital test, RF test.
- Developed universal test method library for On-Die Parametric test on different TI DSP device, provide device characterization results to R&D.
- Collaborated with customers to deliver test program for production.
- Built data analysis tool using python(including scipy, pandas library) to do production data audit and statistical analysis(GR&R).

Research Assistant, Department of Physics, North Carolina State University, Jun.2009-Jun.2013
Conducted computational physics research focusing on electronic structure using quantum Monte Carlo method, developed and maintained computational software code in C++ for 3 years.

Achievement Highlights

- Conducted parallel-computing simulations using first-principle methods, including Density Functional Theory, Quantum Monte Carlo, etc.
- Evaluated the dipole moment of weakly bonded ultracold molecules precisely using Quantum Monte Carlo method and provided the data with good quality to research funding agency.
- Developed, contributed quantum Monte Carlo software package in order to add spin-orbit coupling feature (10k lines).
- Performed the first successful calculation in literature on spin-orbit coupling effects of two dimensional electron gas in semiconductor devices.

EDUCATION

- **Ph.D Physics**
  North Carolina State University, Raleigh, NC, USA, Dec.2013 GPA:3.63/4.0
- **B.S. Physics**, **Minor in Economics**
  Shanghai Jiaotong University, Shanghai, China, Jun.2007