

SONGLIN ZHU, Ph. D.

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OBJECTIVE:

To design and develop software for accurate and efficient data collection, management, reporting, and analysis.

PROFILE:

- Six more years experience in using **SAS** for data processing, management and statistical analysis. 20 years computer programming experience on computer mathematics, computer graph, and data management and analysis.
- Solid mathematical background, strong analytical and problem solving skills, and quick learning ability.
- Wide range of knowledge and experience in computer hardware and software, operating systems (Unix, Linux, FreeBSD, Windows 95/98/2000/XP/ME) and servers (web and database).
- 30 journal papers and 5 international conference papers, including some peer reviewed journal papers.
- Highly collaborative, detailed, results-oriented and self-motivated.

EMPLOYMENT & EXPERIENCE:

10/06-Now SAS Programmer/Analyst, GlaxoSmithKline, Research Triangle Park, NC

Develop applications to analyze large complex patient-registry (diabetes, asthma, and heart failure patients) data, including data processing, data quality control, data analysis, creating general and statistical reports and graphs, and documentation.

- Develop automatic report generation systems to create reports without changing code. **SAS/BASE, SAS/MACRO, SAS FUNCTIONS AND CALL ROUTINES, PROC SQL, SAS/ACCESS, SAS/ODS, PROC REPORT, PROC TABULATE, SAS/GRAPH** are used.
- Design directory tree for easily finding and maintaining reports, documents and programs, as well as for automatic report generation. **SAS/BASE, SAS/MACRO** and **SAS FUNCTIONS AND CALL ROUTINES** are used to develop code to create a directory automatically.
- Develop **SAS** code using **SAS/BASE, SAS/MACRO, SAS/ACCESS, SAS/ODS** to import and export data from/to text/CSV files, MS excel files, MS access files, and create reports in RTF, PDF and HTML formats.
- Develop **SAS** code using **SAS/BASE, SAS/MACRO, SAS/ACCESS, SAS/ODS, PROC SQL, PROC TABULATE** and **PROC REPORT** for data quality control including finding logical errors and duplicate observations, correcting reports in different file formats.
- Develop **SAS** code using **SAS/BASE, SAS/MACRO, SAS/STAT, SAS/GRAPH, SAS/ACCESS, SAS/ODS, PROC SQL, PROC REPORT** and **PROC TABULATE** to generate monthly, quarterly, irregular and one-time reports.
- Use **Camtasia** to create different formats of video training materials (.rm for RealPlayer, .wmv for MediaPlayer, .mov for QuickTime, .avi for recording DVD, .swf for Macromedia Flash).
- Build a MS-Access database by importing registry data from .csv and excel files, and maintain database by correcting logical errors, adding and dropping observations and variables.

7/04-9/06 Applications Programmer Analyst, FPG Child Development Institute at UNC-Chapel Hill, NC

9/03-7/04 Applications Programmer (part time), FPG Child Development Institute at UNC-Chapel Hill, NC

Develop applications to manage large complex survey and clinical data on child development, including data processing, data quality control, data analysis, creating general and statistical reports and graphs, and documentation.

- Develop **SAS** code using **SAS/BASE, SAS/MACRO, SAS/ACCESS, SAS/ODS** and **PROC SQL** to import and export datasets in text files, MS excel files, MS access files, MS word files, PDF files, HTML files, and update project databases.
- Develop **SAS** code using **SAS/BASE, SAS/MACRO, PROC SQL** for data quality control and producing reports.
- Develop statistical analysis programs using **PROC CORR, PROC MEAN, PROC FREQ, PROC TABULATE, PROC SUMMARY**, and **PROC SQL**, etc.
- Use **FSEEDIT** to develop data entry screens.
- Use **SAS/AF (FRAME and SCL)** to write applications.

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- Develop **SAS** code using **SAS/MACRO**, **Proc SQL**, **SAS DATA DICTIONARY TABLES** to automatically update data version number and print out files for documentation
- Develop **SAS** code using **SAS/BASE**, **SAS/MACRO** and **PROC SQL** to automatically generate **SAS** programs for error correction.
- Develop **SAS** code using **SAS/BASE**, **SAS/MACRO** and **SAS/ODS** to produce MS-Word reports and modify **RTF** files based on updated data.
- Develop **VB APPLICATION** to sort and display **MS ACCESS** database containing observational data based on user-supplied input for purposes of verification.
- Data and programs backup and documentation.
- Build and maintain personal web page by using **HTML**, **PHP** and **JAVASCRIPT**.

9/00-7/04 Assistant Research Professor, Mechanical Engineering and Materials Science, Duke University, Durham, NC

9/97-9/00 Research Associate, Mechanical Engineering and Materials Science, Duke University, Durham, NC

Research on innovation of medical devices to increase treatment efficiency and reduce side effect, including laboratory tests, computer simulations, data processing and analysis.

- Laboratory tests on currently used, new and innovated medical devices including laser, pneumatic and shock wave lithotripters, ultrasound drug delivery and gene transfer devices.
- Develop **SAS** code on Unix and Windows system using **SAS/BASE**, **SAS/MACRO**, **SAS/ODS**, **SAS/GRAPH** and **SAS/STAT** to process, manage and analyze experimental and computational data to evaluate these devices.
- Develop numerical models and write **MATLAB** and **JAVA** programs to solve mathematical equations for better understanding treatment mechanisms and side effect of these devices.
- Build and maintain personal web page using **HTML**, **JAVESCRIPT** and **JAVA**.
- Install and upgrade PC and application software (include SAS 8.2), install operating systems (Windows 95/98/2000/XP, Linux and FreeBSD) and server (Apache web server).
- Perform data backup, hardware and software troubleshooting.

1/95-9/97 Postdoctoral Research Fellow, National Laboratory of Laser technology, Wuhan, China.

Research on laser-optical engineering which includes:

- Develop numerical models and write **FORTRAN** programs to simulate one- and two- dimensional high-speed fluid flows.
- Develop **FORTRAN** and **C** programs to visualize scientific computing data, and control computer hardware and peripherals.
- Install and upgrade PC and application software.
- Perform data backup, hardware and software troubleshooting.

7/91-12/94 Research Assistant, Wuhan University of Technology, Wuhan, China

- Develop numerical models and write **FORTRAN** programs to solve complex mathematical equations (nonlinear partial differential equations) for simulating 3 dimensional fluid flow and heat transfer.
- Develop numerical models and write **FORTRAN** and **C** programs to process and visualize scientific computing and experimental data.
- Use those models and software to simulate fluid flow and heat transfer in the cooling system of a low heat rejection engine

7/88-7/91 Research Assistant, Wuhan University of Technology, Wuhan, China

- Develop numerical models and write **FORTRAN** programs to generate grids in complex geometries.
- Develop numerical models and write **FORTRAN** and **C** programs to process and visualize scientific computing and experimental data.

9/85-9/88 Engineer, The China State Shipbuilding Corporation, Xi'an, China.

- Develop numerical models and write **FORTRAN** programs to simulate fluid flow around an object.
- Mechanical design.

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SKILLS & EXPERTISE

Languages: SAS 8.2 & 9.1, Html, PHP, Javascript, Matlab, VBA, Java, C, Fortran

Technical: Data Analysis and Management, Systems/Computer Lab Design, Directory Tree Design, Web and Database Development and Server Installation, Hardware/Software Installation, Upgrade and Troubleshooting

Operating System and Server: Windows 95/98/ME/XP/2000, Linux, FreeBSD (operating system), Apache (web server), Mysql & Oracle (database server), PHP (tool for web application)

Software Packages: MS Office (Access, Excel, Word and Powerpoint, Frontpage), Adobe Tools (Photoshop, Illustrator, Distiller), Dreamwaver, Windows Media Tools (Media Encoder, Media Indexer), Graphic and Gif Animation Tools (Cavas, SigmaPlot, Gif-Tools etc.), Training Materials Preparation Tools (Camtasia).

EDUCATION:

12/1994 **Ph. D.** in Mechanical Engineering, Wuhan University of Technology, Wuhan, China

Dissertation works focused on computer mathematic and computer graphics.

7/1991 **M. E.** in Fluid Mechanics, Wuhan University of Technology, Wuhan, China

Courses and dissertation works focused on computer mathematic.

7/1984 **B. E.** in Mechanical Engineering, Northwestern Polytechnic University, Xi'an, China

OTHER:

- Published 30 journal papers and 5 international conference papers, including those related to data processing and analysis, software development, computer mathematics and computer graphics.
- Had Research Grants as a Principal Investigator from Whitaker Foundation (2001-2004), the National Laboratory Foundation of China (1995-1997) and the Communication Science Foundation of China (1992-1994).
- Permanent Resident of the United States (Green Card).