

Gerald M. Guglielmo

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SUMMARY OF QUALIFICATIONS

Excellent experience in solving complex problems through the application of analytical, software and system integration skills. Able to quickly learn complex technical systems and become a contributing member in existing research projects. Experience with many stages of research and development projects including concept design and quality control. Designed, developed and tested software for technical and scientific applications. Strong interpersonal and communications skills in addition to leadership and conflict resolution abilities. Consistent track record demonstrating cooperation and teamwork and proven ability to work alone. Gets the job done on time working in a diverse international environment. Experience in UNIX, Windows, Macintosh and Linux systems. Programming in C, FORTRAN and Python/Tkinter.

RELEVANT SKILLS/ACCOMPLISHMENTS

ANALYTICAL

- **Design and Modeling:** Designed and modeled a system for collimating a high energy particle beam during transport through several high magnetic field regions.
- **Mathematical:** Derived mathematical equations for use in extracting physics results from statistical distributions.
- **Pattern Recognition:** Created a practical algorithm for evaluating status of main physics goals during a six month long data collection phase of thesis experiment.
- **Quality Assessment:** Investigated techniques and limits of silicon testing procedures and developed recommendations for implementation of the testing program to assess several hundred silicon devices. Improved accuracy of measurements by a factor of 2.

SOFTWARE

- **Design:** Designed and implemented many software applications for extracting physics results from high noise to signal environments in C and FORTRAN.
- **Analysis:** Diagnosed and verified data collection software for quality assessment of crucial component in a large-scale multi-year project.
- **Installation:** Member of a small team that ported thesis experiments' software library from VMS to UNIX. The successful effort reduced processing time by a factor of 3 due to the increase in available CPU power on the UNIX platforms.
- **Interface Design:** Helped develop GUI for hardware control application using Python/Tkinter. Integration of 3 distinct hardware applications into a test station for evaluating silicon devices.

TEAMWORK

- **Software Analysis:** Joined an existing large team and helped improve the reliability of trigger and trigger simulation software through coordinated efforts in identifying and correcting problems. Proven ability to meet goals consistently in a rapid turn around environment.
- **Analysis:** Key member of an analysis team; helped to guide the team to completion of data analysis goals.

Gerald M. Guglielmo/ Page 2

- **System Integration:** Member of a small team requiring a high level of cooperation and interaction on a daily basis that installed, commissioned and maintained data collection software and hardware trigger mechanism for 24(x7) hour operation.
- **Development:** As a member of a small technical staff, built and installed 3000-channel detection system on time.

DIVERSITY AND COMMUNICATION

- **Diversity:** Able to work successfully in a multicultural environment. Member of several team projects involving international collaboration.
- **Conflict Resolution:** Respected ability to resolve conflicts in diverse work environment. Consistently requested to mediate both intra-group and inter-group conflicts.
- **Technical Communication:** Able to communicate technical ideas to both large and small groups. Given talks before audiences as small as 1 or 2 people to as many as several hundred. Experience in co-authoring technical reports for both internal and external publication.
- **Military:** Sergeant in the Air National Guard routinely expected to communicate information between officer and enlisted members.

LEADERSHIP

- **Software:** Lead successful effort of small team to update simulation software and document differences between versions of the software.
- **Analysis:** Helped guide 5 member team to successful completion of analysis project on time. The results of the effort were published in a technical journal.
- **Quality Assessment:** Directed efforts of technician in testing of several hundred silicon devices and the documentation of test results. Coordinated the efforts of several people responsible for updating database of test results from testing sites in several different regions of the country.
- **Training:** Responsible for developing and overseeing technical training exercises for cryptographic maintenance team during service in Air National Guard.

ADDITIONAL INFORMATION

- Postdoc for the University of Oklahoma, 1994-Present.
- **Ph.D.** in Physics, University of Minnesota - 1994.
- Graduate student and research assistant in physics, University of Minnesota, 1987-1994.
- Technician for University of Illinois High Energy Physics Group, 1986-1987.
- **B.S.** in Physics, Cum Laude with Highest Distinction in the Curriculum, University of Illinois – 1986.
- United States Air Force and Air National Guard, 1982-1988. Graduated with honors from the Air Force School of Electronic Communications and Cryptographic Systems Repairman. Received an honorable discharge from the Air National Guard and the United States Air Force. Completed with a grade of Sergeant.

References and a complete list of publications available upon request.