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OBJECTIVE: To contribute my knowledge and skills in a design and development firm utilizing my expertise in digital signal processing/control applications, and software engineering

PROFESSIONAL PROFILE:

- Over one-year research experience in digital signal processing (especially multi-rate systems, filter banks).
- Comprehensive knowledge in time domain analysis, frequency domain analysis, Fourier transform, wavelets, 2-D digital filters, 3-D digital filters and image coding).
- Strong knowledge of digital signal processing algorithms and methods including FFT, IIR and FIR filters, image processing/computer vision algorithms, analysis, and application development.
- Excellent knowledge about supervised machine learning theories and algorithms such as (Classification and Regression Algorithms, SVM, Kernels, and Nonlinear Transformation) with practical implementations in MATLAB and Python.
- Understanding of continuous and digital control engineering theories, PID tuning, feedback and feed forward control systems.

EDUCATION:

2015 **M.A.Sc in Electrical Engineering** University of Victoria, Canada
Thesis title: "Implementation and performance analysis of 3-D cone and frustum filters"

2011 **BSc in Instrumentation and Control Engineering** Jubail Ins. College, Saudi Arabia
Graduation project title: "Design of a Control System for a 4-Level-Elavator using Siemens S7 PLC"

TECHNICAL SKILLS:

Programming/Software

- C, C++, STD C++, OpenCV
- Boost-C++, MATLAB
- Google/Boost Unit Tests
- Unix Shell, Python, R
- JavaScript, jQuery

Software Development/methods

- OOP
- Extreme Programming
- Version Control GIT
- Mac, Windows, Linux

Theory

- Filter Design and DSP algorithms
- Digital Signal Processing
- Image/Video Processing
- Computer Vision
- Machine Learning

PROFESSIONAL SKILLS:

Design Skills

- Developed and implemented 3-D cone and frustum filter and test its performance (radio astronomy application and image processing application) to enhance signal of interest and reject noise and interference (using C++ and MATLAB simulation).
- Implemented a uniform/non-uniform filter bank designed by optimization (using C++ and OpenCV).
- Implemented a cosine modulated filter bank (using Python).
- Designed a digital control system for a four-level elevator and interfaced, connected and run the system (using Siemens S7).

Problem Solving

- Demonstrated ability to research relevant factors
- Ability to think laterally and creatively
- Strengths in analytical and critical thinking

Project Management

- Effective self-management & time management
- Task prioritization and dealing with competing demands
- Utilized technology productively in the course of project implementation
- TA for courses in design (project management, overseeing student projects proposal to prototype)

Interpersonal Communication

- Strong verbal communication skills including empathy and negotiation
- Sensitivity to others' cultures and perspectives
- Active listening skills

RELATED WORK EXPERIENCE:

2014-2015 **Teaching Assistant**, Dept. Electrical and Computer Eng., University of Victoria, Canada

- Organized and set up lab equipment and instruments.
- Explained the experiments and lab requirements for students.
- Helped and assisted students during experiment time
- Monitored and evaluated the progress of the work done by students.
- Marked students' pre-lab and lab assignments, kept records of students' progress and reported them to course supervisor.

2011 **Instrument and Control Engineer**, Tasnee Petrochemical Complex, Jubail Industrial City, Saudi Arabia

- Tested and evaluated the functionality of critical flow-meter instruments to ensure proper working conditions.
- Maintained and modified instruments and transmitter to meet company safety standards.
- Tested and modified existing systems and updated several control loops to enhance control system performance.
- Analyzed data and presented findings in written reports

2009 **Instrument Technician**, Kemya Petrochemical, SABIC, Jubail Industrial City, Saudi Arabia

- Assembled and re-assembled control valves for/during maintenance.
- Recalibrated smart field instruments and transmitters online and offline to ensure proper functionality.
- Configured and installed new collection of field instruments and transmitters
- Inspected level sensors to ensure correct functionality.
- Carried out preventive and protective maintenance for several control valves, field instruments and sensors to ensure proper, safe and standardized performance.

Publications:

- Shubayli, Hussam, Implementation and Performance Analysis of 3D Cone and Frustum Filters, M.A.Sc thesis. Department of Electrical and Computer Engineering, University of Victoria, Victoria, BC, Canada, August 2015.
- Hussam Shubayli; Chamira Edussooriya; Iman Moazzen; Panajotis Agathoklis; Leonard T. Bruton "Performance Evaluation of 3D Cone and Frustum Filters Using Various Filter Banks" 2015 IEEE Pacific Rim Conference on Communication, Computers and Signal Processing, Victoria, Canada. 2015.

MEMERSHIPS: IEEE, ISA

INTERESTS: Hobbies include camping, swimming, playing soccer, traveling

REFERENCES: Available upon request