T. WAYNE **WALL**

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Over 40 years' experience designing and implementing innovative software/hardware solutions to challenging computing problems for academia and industry. Skilled in the art of advanced software design and implementation techniques and with a track record of producing quality solutions on time and under budget. Substantial electronics and hardware knowledge not found in the typical software engineer. Broad scientific background with emphasis in mathematics, physics and the earth sciences, as well as economics and operations research/management science. Adjunct teaching experience in both conventional and online settings. Can communicate effectively in both technical and non-technical environments.

EXPERIENCE

2018 - PRESENT

LECTURER OF COMPUTER SCIENCE, COLORADO MESA UNIVERSITY

Am teaching these courses:

- Computers in Our Society (6 credits) – 2 online sections, 3 credits each
- Introduction to Engineering Computer Science (4 credits)
- Computer Architecture/Assembly Language (4 credits)

2017 - PRESENT

INSTRUCTOR, WORKFORCE INNOVATION PROGRAM

Teach courses in microcontrollers, CNC milling machines, 3D printing, laser cutting/engraving

2017

PROGRAMMING MENTOR/INSTRUCTOR, HI FIVES ROBOTICS TEAM

Mentor for F.I.R.S.T. Robotics Team 4944, consisting of high school students from the entire Grand Valley.

2016

STUDY.COM, LESSON WRITER, COMPUTER PROGRAMMING

Contract position, working remotely, writing 500 to 1000 word lessons on topics as assigned.

2016

CONCORD CAREER COLLEGES, INSTRUCTOR, TOPICS IN CONTEMPORARY MATH

Online instructor using Canvas and WebAssign courseware. Provided special guidance to at-risk students. Interacted with administrators concerning improvement of teaching methodologies.

1990-2015

GOLDEN SOFTWARE, SENIOR SOFTWARE DEVELOPER/SYSTEMS ANALYST

- Designed and implemented complex graphical software products from inception to market.

- Worked both independently and in collaboration to produce high quality real-world scientific graphing and mapping applications.
- Helped establish the company's methods for telecommuting and distributed software development prior to public access to the internet.

1987-1990

SOFTWARE ENGINEER/ANALYST, ZENOGRAPHICS, INC.

- Scalable typography expert on the SuperPrint development team.
- Manger and technical lead of remote development and technical support office in another state. Interfaced with customers to solve their special needs. Liaison to Microsoft concerning Windows printer development.

1985 - 1987

SOFTWARE ENGINEER/ANALYST, C.A.C.I., INC.

Solved unique software/hardware problems for specialized government agencies. Work was classified. Held a top-secret security clearance.

1976-1982

SENIOR SYSTEMS PROGRAMMER, CSM COMPUTING CENTER

- Maintained and supported campus-wide Digital Equipment Corporation PDP-10 timesharing system.
- Provided expertise and assistance to students and faculty on their special projects.
- Taught courses on software development, algorithms and data structures when there were no degreed professors available in those disciplines.
- Worked closely with the Math department and Computing Center to develop a computer science degree program at CSM and get it accreditation.
- Founded The 6502 Group, a hobbyist computer club that still meets weekly 45+ years later. Mentored many who went on to have careers in computing.
- Community service work teaching at Denver Free University such courses as "Computer Programming Concepts for Beginners".

1974-1975

SYSTEMS/APPLICATION PROGRAMMER, COMPUTER RESEARCH CORP.

- Developed innovative ways to use PDP-11 minicomputers for high resolution cartography.
- Instrumental in CRC providing dynamically adaptable computer-based maps to the Colorado Department of Wildlife for a fraction of the cost of hand produced maps.

EDUCATION

1984

M.SC. MINERAL ENGINEERING ECONOMICS, COLORADO SCHOOL OF MINES

Thesis: "A Numerical Algorithm for the Solution of Chemical Equilibrium Problems"

Publication: "Solving complex chemical equilibria using a geometric-programming based technique". Wall, Greening & Woolsey, Operations Research, Volume 24, Issue 3, May-June 1986. Also presented at ORSA/TIMS Conference in Copenhagen, June 1984.

Voted “Graduate Student of the Year” (’84-’85) by Economics Department Faculty.

Developed support software for several research projects:

> “A Reformation Algorithm for a Class of Capital Investment Problems” (T-2762)
> “Economic Decision Analysis Applied to Related Cases in Litigation” (T-2782)

1968-72, THEN 9-YEAR HIATUS, DEGREE COMPLETED 1981

B.SC., ENGINEERING MATHEMATICS, COLORADO SCHOOL OF MINES

4-year full academic merit scholarship.

1968

SALUTATORIAN, DURANGO HIGH SCHOOL

GPA: 3.98. Numerous science and math awards, including winner of the San Juan Basin Science Fair.

SKILLS

- Computer hardware, including mainframes, minicomputers, personal computers, microcontrollers and custom homebrew.
- High level programming languages: FOCAL, BASIC, FORTRAN, RATFOR, PASCAL, ALGOL, XPL0, C/C++, Java, PHP, C# and various scripting languages.
- Assembly languages for many classic machines (PDP-8, PDP-11, PDP-10, 6502, Z80, 8080, 80286 cpus), as well as Intel and ARM processors.
- Software development tools, such as MS Visual Studio, Eclipse, Inventor, OpenGL, Git, Wise, Installshield and InstallAware.
- Applications such as MS Office, AutoCAD, Photoshop, Firefox, Chrome, Acronis and more.

ACTIVITIES

- Volunteer at GJmakerspace, a maker community.
- Active in the 6502 Group (link is here), a hobbyist computer club I helped establish in 1975.
- Did Raspberry Pi electronics and programming for an exhibit at Eureka! Science Museum.
- Taught Arduino and Raspberry Pi hardware/software to 7 District-51 middle school STEM teachers as part of a grant-funded continuing education activity.