
EMPLOYMENT HISTORY

PILLAR CONSULTING, INC., San Diego, CA

01/02 - Present

President

Accomplished senior project manager with projects in software development, communications, systems engineering, systems integration, hardware development, testing and process development. Project Manager, systems engineer, subject matter expert and standards developer for the Advanced Transportation Controller (ATC) and National Transportation Communications for ITS Protocol (NTCIP) standards programs.

Led the development of the ATC Application Programming Interface (API) Reference Implementation (APIRI), an open source software (OSS) implementation of the ATC API Standard. API software is being deployed operationally in ATC units today. Led the development of the API Validation Suite (APIVS), an OSS project which tests API software operating on ATC units. Achieved Caltrans Qualified Products List status for a client company, advancing their 2070 controller product through rigorous testing at Caltrans lab.

Prepared and made presentations as part of a US contingent on Intelligent Transportation Systems (ITS) in Sao Paulo, Tel Aviv and Prague. Instructor/Course Developer for the USDOT Professional Capacity Building (PCB) Program. Advisory committee for ITE's *Manual of Transportation Studies*. Presented emergency management and transit signal priority (TSP) technology to numerous Congressional staff, DHS, DOJ, and FEMA. Subject Matter Expert for the USDOT Roadway Transportation Cybersecurity project.

- Project Management
- Systems Engineering and Integration
- Strategic and Tactical Planning
- Process Design and Implementation
- Software/Hardware Development
- Automated Testing
- Product Development / Marketing
- Intelligent Transportation Systems
- Connected Vehicle (V2I) Communications
- Advanced Transportation Controllers (ATC)
- Communications and Networking (incl. NTCIP)
- Specification Development
- Cybersecurity
- Training (Transportation & Engineering Topics)

ECONOLITE CONTROL PRODUCTS, INC., Anaheim, CA

05/97 – 01/02

Vice President Engineering

Senior engineering manager delivering products and services to the traffic control industry. Staff of over 30 engineering professionals. Led team to develop a product development strategy for the entire company instituting formal concurrent development processes. Developed and implemented engineering design, development and quality standards. Conceived and implemented a bid process for sales, marketing and engineering. Instituted a training program to retain and broaden core competencies. Built sub-contracting partnerships and college internship programs.

- First successful deployment of NTCIP ASC communications in industry
- Developed & brought ATC/2070 line to market
- Achieved ISO 9001 certification

BALL CORPORATION, SYSTEMS ENGINEERING OPERATIONS, San Diego, CA

09/85 - 05/97

Section Manager Transportation Systems

Managed a software engineering group developing products and systems for commercial and federally funded projects. Responsibilities included software design and development using object oriented software engineering (OOSE), equipment and architectural decisions, project coordination with other contractors, customer interfacing, and interaction with various governmental agencies. Prepared and presented company training course on software engineering principles. Formulated and implemented a get-well plan for a struggling but vital product. Recognized by upper management for unifying department.

- Designed and developed real-time system to communicate with existing traffic management centers using OOSE, C++ and TCP/IP
- Ported and productized Ball's GPS-based computer aided dispatch product, MetroView, to a PC environment
- Developed an automated system for the FHWA which identifies incidents on freeway systems using C++ and Windows NT
- Technical lead for the Trilogy project which provided area-wide and route-specific traffic advisories to en route vehicles via radio

Software Project Manager

Project manager responsible for the design and development of a large distributed system which integrates ground, aircraft, and GPS based time-space-position information and provides real-time and post-flight vehicle track estimates for the Air Force. Duties included customer interfacing, feasibility analysis, design reviews, software design and development, MIL-STD-2167A documentation, and technical direction of engineering staff.

Computer Scientist

Worked on numerous projects involving traditional, distributed and advanced computer architectures. Designed and implemented network communications software. Conceived of and developed software to analyze resource allocations over a network for a multitasking distributed system. Designed and developed user interfaces utilizing windows and high resolution graphics. Principle investigator for an R&D project analyzing the applicability of various artificial intelligence (AI) technologies to an existing military program. Architect of several prototype expert systems using various knowledge base organizations and inference techniques.

AEROJET ELECTROSYSTEMS COMPANY, Azusa, CA

10/83 - 09/85

Computer Scientist

Principle engineer for an R&D project combining AI and parallel processing technologies. Conceived, designed, and implemented a logic programming and knowledge base analysis system for a parallel processing architecture. Co-developer of a prototype expert system which analyzed and identified space-borne sensor data. Received Aerojet's Outstanding Engineering Achievement Award.

GENERAL DYNAMICS CORPORATION, DATA SYSTEMS DIVISION, Pomona, CA

06/81 - 10/83

Software Engineer

Lead engineer for statistical analysis programs for automatic test equipment data. Responsibilities included customer interface, requirements definition, software design and development, cost estimation, and technical direction of four engineers. Software support engineer for the plant Heating, Ventilating and Air-Conditioning (HVAC) system. Received General Dynamics' Extraordinary Achievement Award.

EDUCATION

Bachelor of Science in Mathematics, Magna Cum Laude, University of La Verne, La Verne, CA 06/81

AWARDS/AFFILIATIONS

NTCIP BSP, ASC, SCP, RSU & TSS Working Groups	2002-Present
Numerous Papers, Conference Presentations, and Articles (list is available upon request)	2000-Present
Advanced Transportation Controller Working Groups and Caltrans QPL Committees	1998-Present
Member ITE, ITS America, ITS-CA, TRB, OCTEC, and INCOSE	1997-Present
NIST Standards in Trade Workshops (Sao Paulo, BR, Tel Aviv, IL, Prague, CZ)	2008-2010
Advisory Committee for the <i>Manual of Transportation Studies 2nd Edition</i>	2008-2010
Outstanding Engineering Achievement Award, Aerojet ElectroSystems Company	1985
Extraordinary Achievement Award, General Dynamics Corporation	1983