

MICHAEL WILLIAMS

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TECHNICAL QUALIFICATIONS SUMMARY

Active Transportation Design/Planning/Advocacy
Project Management, Applied Research, Grant Writing, Fundraising, Software Development, Embedded Systems Development, Specification Writing, Requirements Gathering

WORK HISTORY

Alta Planning + Design

Portland, OR 7/2016–12/2017

Worked as IBPI intern, independent contractor and planner/engineer at Alta. Primary author of white paper on Advisory Bike Lanes. Created guidelines for low stress bicycle networks in roundabout corridors. Authored construction specifications for CV/Link project. Practiced bicycle and pedestrian facility design.

Graduate Research Assistant, Portland State University

Portland, OR 2015-2016

Evaluated software for automated extraction of surrogate safety measures from traffic video; poster on research won first place at Transportation and Communities Summit, 2016; researched and recommended surrogate safety measures to be used for evaluation of signal strategies for reducing right hook collisions.

Student, M.S. Civil Engineering, Portland State University

Portland, OR 2015-2017

Emphasis on Active Transportation. Coursework in Civil Engineering and Urban Planning.

General Contractor, Owner-Consultant, TMW

Mt Shasta, CA 2001-2015

Licensed as a General Contractor in California, I support other general contractors that lack public works bidding, estimating, and project management capacity, specializing in Caltrans work. During the construction season, I managed multiple projects, some worth more than \$2 million. For my primary client, I was responsible for increasing annual volume from \$3 million to \$10 million within a 5 year period. For this client, I initiated and moved the company from an emphasis on buildings to one on roads and bridges as the recession hit and ARRA funds became available.

Private Engineering Consultant, TMW

Mt. Shasta, CA 1994-1999

After moving away from the San Francisco area, I continued my work with defibrillators and expanded to other medical devices. I authored requirements and specifications for features in next-generation defibrillators. I pursued patents on innovative features. I evaluated and recommended microprocessor architectures and development tools for use in future defibrillator systems. I conducted research on microprocessors, detection algorithms, and software development tools for other medical devices, e.g. implantable neural stimulators.

Manager Defibrillator Software Development, Ventritex

Sunnyvale, CA 1988-1994

My chief research responsibility was creating new algorithms for detecting life-threatening cardiac rhythms. This required creation of specialized equipment and protocols for human and animal testing. Results of this testing were incorporated into software for implantable defibrillators. I created specialized tools for our testing and development environment. I moved the corporate software development environment from an ad hoc approach to a formal, executable object-oriented design methodology suitable for life-critical products. As manager I had other responsibilities. In product development, I was a key contributor to system and device specification, took a lead role in system design for programmer/defibrillator partitioning and oversaw major software development projects. I was responsible for creating custom testing and development tools. On the

research side, I evaluated competing patents affecting algorithm development and took a lead role in the creation/evaluation of arrhythmia detection algorithms. I grew my group from 2 to 14 people plus consultants.

Worldwide Travel

1986-1988

I spent over one year traveling the world.

Manager and Lead Software Engineer, Harmon Electronics

Foster City CA

1982-1986

My main responsibility was embedded systems programming on a real-time product used in the railroad field. My duties as a working manager included scheduling, lab supervision and supervision of 3 engineers.

E D U C A T I O N

M.S. Civil Engineering	Portland State University	2015 – 2017
M.S. Electrical Engineering	UC Santa Barbara	1984 - 1986
B.S. Computer Engineering with Math/Physics minor	CSU Chico	1977 - 1982
Chair, Computer Science Honor Society, CSU Chico chapter, 1982		
Chair, Association of Computing Machinery, CSU Chico chapter, 1982		

P R E S E N T A T I O N S A N D P U B L I C A T I O N S

<u>TREC Seminar: Overview of Advisory Bike Lanes in North America</u>	2017
Presentation at Portland State University on advisory bike lanes for Transportation and Research and Education Center (TREC).	
<u>2017 California Bike Summit, Sacramento, CA</u>	2017
Led an advisory bike lanes workshop.	
<u>Road Diet V2.0: 5 Lanes to 2 Lanes, Salem, OR</u>	2017
Presentation to Oregon DOT on corridor transformation with roundabouts and road diets.	
<u>2017 Transportation and Communities Summit, Portland, OR</u>	2017
Pecha Kucha talk on advisory bike lanes.	
<u>Lessons Learned: Advisory Bike Lanes in North America</u>	2017
Primary author on a white paper which surveyed installations of advisory bike lanes in the US and Canada.	
<u>Feasibility Determination Guide for the Road Diet V2.0 - A 5/4 Lane to 2 Lane Road Diet</u>	2017
M.S. Thesis. This paper demonstrated higher vehicle throughput on roundabout corridors than predicted by existing guidance and included a feasibility guide for roundabout-based road diets on existing corridors.	
<u>Sight Distance for Advisory Bicycle Lanes</u>	TBD
Paper for 2019 TRB submission.	
<u>Advisory Bicycle Lanes – Reality versus Design Guidance</u>	TBD
Paper for 2019 TRB submission.	



P A T E N T S

- “Medical Device with Morphology Discrimination”, U.S. Patent No. 5,240,009, sole author, European patent issued
- “Method and Apparatus for Interrogating an Implanted Cardiac Device”, U.S. Patent No. 5,413,594, sole author, European patent issued
- “Implantable Defibrillator Output Stage Test Circuit and Method”, U.S. Patent No. 5,431,684, co-author, European patent issued
- “A Method and System for Testing an Implantable Defibrillator Output Stage and High Voltage Lead Integrity”, U.S. Patent No. 5,453,698, co-author
- “Apparatus and Method for Presenting Patient Electrocardiogram and Implantable Device Status Information”, U.S. Patent No. 5,669,391, sole author
- “Method for Storing EGM and Diagnostic Data in a Read/Write Memory of an Implantable Cardiac Therapy Device”, U.S. Patent No. 5,732,708, co-author
- “System and Method for Waveform Morphology Comparison”, U.S. Patent No. 5,779,645, co-author
- “System and Method for Optimal Sensing of Cardiac Events”, U.S. Patent No. 5,941,830, sole author
- “Methods For Sensing Arrhythmias in a Pacemaker/Defibrillator and a Pacemaker/Defibrillator Programmed to Implement the Same”, U.S. Patent No. 6,484,058, co-author
- "Methods For Sensing Arrhythmias In A Pacemaker/Defibrillator And A Pacemaker/Defibrillator Programmed To Implement The Same", U.S. Patent No. 6,324,422, co-author
- "Methods For Sensing Arrhythmias In A Pacemaker/Defibrillator And A Pacemaker/Defibrillator Programmed To Implement The Same", U.S. Patent No. 6,564,097, co-author

P R O F E S S I O N A L O R G A N I Z A T I O N S A N D A W A R D S

IBPI Scholar

2016

The Initiative for Bicycle and Pedestrian Innovation awards \$2,500 and a paid Alta internship to a student who is highly motivated to focus on bicycling and walking as mainstream forms of transportation.

NITC Scholar

2016

The National Institute for Transportation and Communities recognizes outstanding students working on transportation projects.

Citizen of the Year, City of Mt. Shasta

2000

Because of my work on fundraising and construction of the Siskiyou Ice Rink and the establishment of the Mt. Shasta Summit Century, I was selected Mt. Shasta's Citizen of the Year in 2000.

Institute of Electrical and Electronics Engineers (IEEE) EMBS Chapter Chairman

1990 - 1992

Awarded Outstanding Chapter of the Nation by IEEE in 1992



C O L L A B O R A T I O N A N D L E A D E R S H I P

Active Transportation Advocate

Siskiyou County, CA

2006-2015

For the City of Mt. Shasta: I fundraised and guided creation of the City's AT master plan in 2007. I chaired the City's AT committee for most of its life, won 4 grants worth over \$250K to build bike lanes and trails, worked with City Police to reverse a six-fold decrease in collision reporting, I managed a traffic safety assessment for City, I have led the effort for a detailed design document for our primary AT facility.

For our Regional Trail: I established the concept, gathered County stakeholders, held support-raising and informational meetings, performed route finding, conducted ROW acquisition negotiations, developed a plan for funding ROW acquisition, developed a design document for the trail showing current conditions and preferred treatments for each segment.

For the County: I submitted a grant application for a countywide Active Transportation Plan and advocated for greater transparency at the Regional Transportation Planning Agency. Advised City of Weed on their Active Transportation Plan.

Outside the County: I am a member of the Policy Advisory Council for the California Bicycle Coalition, the state's premier lobbying organization on cycling issues. I am a former Boardmember of Shasta Living Streets in Redding, CA which is a successful active transportation advocacy organization.

Self Education: In the ten years prior to entering PSU, I self-educated myself on AT facility design, street design, industry standards, road geometrics, transportation funding programs/processes and grant preparation/submittals.

Chair, Planning Commission

1997-2000

I was appointed to the Planning Commission for the City of Mt. Shasta in 1997 and became its Chair soon thereafter. I stepped down to spend more time with my twin daughters.

Leader & Project Manager, Siskiyou Ice Rink

1998-2007

In 1998, I initiated a project to build an ice skating rink in Mt. Shasta. I spearheaded the most successful fundraising effort in County history and oversaw rink construction. I remained involved for years after construction helping with fundraising and operations. We raised over \$700,000, mostly from grants.

Co-Founder, Mt. Shasta Summit Century and Mountain Wheelers

1997-2014

A friend and I founded the Mt. Shasta Summit Century and a cycling group to support it. The century is a supported bicycle ride which ranks as one of the most difficult in the nation and has grown to over 600 riders. All profits from the ride (\$10,000 - \$20,000 per year) go to trails, public projects and youth sports groups.

Founder and Chair of ACROSS (Associated Charitable Resource of South Siskiyou)

2000-present

I established a 501(c)3 nonprofit organization whose purpose is to incubate and umbrella charitable community projects for which the burden of establishing a dedicated nonprofit corporation is excessive. Our biggest successes were a 13,000 square foot skateboard park and the Siskiyou Ice Rink.

