Samuel B. Siewert

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SUMMARY

Computer and Information Research Scientist and Software Engineer with interdisciplinary experience in industry R&D, tenure track teaching, academic research, and government service. Specific areas of expertise include Real-Time Systems, Sensor Fusion, Computer and Machine Vision, Robotics, Hybrid and Parallel High-Performance Computing.

PRESENT POSITIONS AND APPOINTMENTS

Associate Professor Computer Science, California State University, Chico
Associate Professor Adjunct Electrical, Computer, and Energy Engineering, University of Colorado Boulder

EDUCATION

Ph.D. Computer Science [CS] - advised by Dr. Gary Nutt — ***University of Colorado Boulder***
***Dissertation*:** Real-time Execution Performance Agent, Presentation — *Real-Time Systems Research Group*
Project: DATA-CHASER, Distributed Automation Tech. Advancement — *NASA JPL and University of Colorado*
M.S. Computer Science [CS] - advised by Dr. Ben Zorn — ***University of Colorado Boulder***
Thesis: A Common Core Language Design for Layered Extension — *Computer Science Systems*
Project: Artificial Neural Network and DSP cancerous cell detection — *Optical Computing Center*
Non-degree, Computer Engineering [CE] - undergraduate and graduate study — ***University of Houston Clear Lake***
B.S. Aerospace and Mechanical Engineering [AME] — ***University of Notre Dame***
Early Admission Program, Physics and Philosophy — ***University of California Berkeley***

ACADEMIC EXPERIENCE

2020-present **California State University Chico [CS, github, Web]** — ***Associate Professor, Computer Science***
Teaching: High Performance Computing, Computer Vision, Machine Learning, and Robotics
Research: Sensor systems & HPC: sensor fusion, computer vision, parallel processing, and quantum advantage
Service: Graduate curriculum chair, outstanding thesis chair, scholarships, and university writing committee
Developed: Applied Computer Vision, Machine Learning, Parallel & Numerical, Robotics & Machine Intelligence

2000-present **University of Colorado Boulder [ECEE, ESE, github, Web]** — ***Associate Professor Adjunct, ECEE ESE***
Teaching: Embedded Systems Engineering Program – Real-Time Systems & Embedded Computer Vision
Developed: **ECV** (ECEE 5763), **RTES** (ECEE 5623, ECEA-5315, ECEA-5316, ECEA-5317, ECEA-5318)

2011-2012 — ***Senior Instructor, Computer Engineering***
Teaching: Capstone Design, and Embedded Systems Engineering Graduate Certificate Program
Research: UAS/UAV real-time co-processing for graphics, and color science GPU research with Trellis-Logic LLC
Service: Redesign of Capstone for ECEE department for two semesters and undergraduate recruitment.

2000-2011 — ***Professor Adjunct, Computer Engineering***
Teaching: Embedded Systems Certificate, Real-Time Robotics & Machine Vision, and Digital Media Systems
Developed: Real-Time Embedded Systems (ECEE 4623/5623) and Real-Time Digital Media Systems (ECEE 5653)

2014-2024 **Embry Riddle Aeronautical University [CESE]** — ***Associate Professor, CESE (Adjunct 20-22, Adjoint 22-24), Computer, Electrical, and Software Eng.***
Teaching: Software and Computer Engineering
Research: ERP & Drone Net UAS/UAV, EO/IR, LIDAR, RADAR, acoustic, IoT, machine vision, and machine learning
Service: Faculty senator, ABET, search committees, Tau Beta Pi, ICARUS and Microprocessor Systems Lab Director

2012-2014 **University of Alaska Anchorage [CS&E]** — ***Assistant Professor, Computer Eng.***
Teaching: Computer Science and Engineering
Research: ADAC, "SmartCam," Multi-Spectral cameras, machine vision, and video analytics
Service: Computer Prototyping and Assembly Lab and Alaska Native Engineering and Science Program

R&D EXPERIENCE

2010-2011 **Intel Corporation** [**IAG, Intel Labs**] ***Intel Architecture Group***

Developed transaction level and cycle accurate SoC simulations for performance projection pre-silicon.
Prototyped and modeled applications of Erasure Codes for scalable storage and "beyond RAID" research.

2006-2010 **Atrato Corporation** ***CTO, Principal Architect***

Architected Linux application/kernel, 10GE iSCSI, 8G FC, SAS/SATA RAID software systems and products.
Designed, implemented, and evaluated RAID-10, RAID-50 & 60 auto-recovery disk arrays and SSD flash.
Created firmware customization of 3G/6G SAS/SATA expanders and controllers for scalable storage.

2002-2006 **Emulex Corporation** [**Broadcom Ltd.**] ***Principal Engineer, firmware architect***

Architected embedded firmware, ARM XScale SoC, C and assembly, for Intel joint development ASIC program.
Developed R&D tools for tracing and profiling ARM XScale, and Tensilica SoCs with ILA (Internal Logic Analyzer).

2001-2002 **Network Photonics** ***Member Technical Staff, lead developer***

Designed and developed embedded Linux, C, Prototype for 96 channel OC-192 MEMS DWDM controller.
Developed PowerPC, VxWorks BSP, C, assembly, boot, and driver code for three custom DWDM network cards.

1997-2000 **NASA JPL** [**Ball Aerospace Corporation**] ***Senior Engineer, lead developer***

Architected Spitzer Space Telescope MIPS instrument software for VxWorks RTOS on RAD6000 with Actel FPGA.
Delivered NASA JPL, U. of Arizona, Cornell, software flown on Spitzer telescope, launched in August 2003.

1993-1997 **NASA JPL** [**CU Space Grant College**] ***Research Assistant, lead developer***

Lead software development for DATA (Distributed Automation Technology Advancement) payload: JPL AI Group.
Designed and developed Mission Operations Software System, ground, and flight, flown summer 1997 on STS-85.
Prototyped early software for Pluto Express instrumentation testbed (launched 2006 as New Horizons).

1989-1992 **NASA JSC** [**MDSSC–Boeing Space Systems**] ***Engineer Specialist, GN&C***

Developed GN&C simulation software: C/C++ and Ada83 at NASA Johnson Space Center for MDSSC.
Supported Mission Control Center, GPO assistance: Mission Certification of Ascent/Entry Real-Time Software.
Developed and demonstrated orbit/entry simulation and SRM disposal analysis for Aero-assist Flight Experiment.
Served on Space Station model assessment team: developed new geomagnetic field and space radiation models.

R&D SKILL SUMMARY

High Performance Computing: MPI cluster, OpenMP, CUDA GP-GPU co-processor, and Pthread parallel programming.
Computer Vision & Machine Learning: OpenCV, Camera drivers, TensorFlow, MATLAB, Deep Learning R-CNN, SSD, YOLO.
Real-Time Systems: Rate Monotonic Analysis, RTOS, Cyclic Executives, POSIX real-time, FPGA co-proc, and mission critical.
Programming: C/C++, Python, CUDA, MPI, OpenMP, OpenCL, R, MATLAB, ARM assembly, Verilog HDL, Lisp, Scheme, SQL.
Systems: Linux kernel & drivers, VxWorks, POSIX Real-Time, SQL Relational DB, Zephyr IoT, ROS, ROS2, Windows, OS-X.
Development tools: UML 2, OpenCV, MySQL, Git, Quartus II, Wind River, VTune, Ftrace, Wireshark, g++, gcov, gprof.
Network Protocols: MPEG 2/4, TCP/IP, Ethernet, 802.11, Fiber Channel, InfiniBand, iSCSI, USB, RTSP, NTSC & HD-SDI.
Instrumentation: LWIR, NIR & visible photometers, radiometers; LIDAR & RADAR; protocol & logic analyzers, MSO, DMM.
Microarchitectures: NVIDIA Jetson Orin SoC, Hopper, Ampere, Volta, and Maxwell; ARM SoC; Xeon, x86, x64; Altera & Xilinx FPGA SoC; ARM MCUs, XScale, MIPS, and PPC MCUs.

CONSULTING EXPERIENCE

2014-2020 **Transductive LLC** ***Founder, Senior Consultant***

Erasure, Low-Density Parity, and Reed-Solomon code analysis for storage applications, 2014-2016

2004-2016 **Studio-B for IBM, Intel** ***Author, Technical Article Series***

Intel: Internet of Things Zephyr and Curie/Quark programming examples, SIMD and VTune articles
IBM: Big Data and Cloud HPC Series, Cloud Education & Infrastructure Architecture Series, Big Iron Lessons & SoC Drawer Series

2014-2016 **Holland & Hart LLP** ***Expert Witness, file systems***

Digital Cinema Technology, hard disk drive physical and logical file storage

2011-2014 **Trellis-Logic LLC** ***Founder, Senior Consultant***

UAS digital video (H.264) link latency analysis and testing, Advanced storage and networking with SSD and scalable RAID, Real-time color transformation research and development of GPU (OpenGL) prototype for Windows, AOS, Linux

2007 **EnableTV & Solekai** ***Senior Software Architect***

Delivered Head-end test system for "open cable" to Cable Labs, in Linux and C/C++

GRANTS AWARDED [$544.00K]

2024	**PI,** California State University Chico, CSC2 and Adelante Undergraduate Research	[$45K]
2024	**Researcher,** California State University Chico, Quantum Info. Science & Technology	[$12K]
2024	**Researcher**, California State University Chico, Computer Vision for Transportation Maint.	[$8K]
2024	**Lab**, CSU Student Learning Fee grant for robotics ROS to ROS2 host upgraded systems	[$8K]
2023	**PI,** California State University Chico, CSC2 Undergraduate Research Program	[$30K]
2023	**Lab**, CSU Student Learning Fee grant for robotics lab wireless and embedded ROS hosts	[$12K]
2022	**PI**, California State University Chico, Engineering College Early Career Summer Stipend	[$10K]
2021	**PI**, California State University Chico, Engineering College Early Career Summer Stipend	[$10K]
2020	**Co-I,** Embry Riddle Aero. U., Undergrad. Research Inst., ICARUS/ERP project (gift fund)	[$100K]
2019	**PI**, Embry Riddle Aeronautical U., Undergrad. Research Inst., Summer Initiative Grant	[$5K]
2017-20	**PI,** Embry Riddle Aeronautical University, Accelerated Research, Drone Net grant #12604	[$130K]
2016	**Co-I**, Embry Riddle Aeronautical University, Internal Grant #13453, Undergrad. Research	[$25K]
2015	**PI**, Embry Riddle Aeronautical University, Internal Grant #13450, Undergrad. Research	[$12K]
2014	**PI,** Faculty Leadership in Expanding Undergrad. Research, U. of Alaska, Anchorage	[$5K]
2013	**PI**, Intel Computer Vision Research and Education Grant, University of Alaska Anchorage	[$15K]
2012	**PI**, Intel Embedded Systems Research and Education Grant, U. of Colorado, Boulder	[$20K]
2011	**PI**, Intel Embedded Systems Research and Education Grant, U. of Colorado, Boulder	[$15K]
2007	**Lab**, Qualcomm Grant for Embedded Equipment Upgrades, U. of Colorado (Co-Award)	[$30K]
2003	**Lab**, University of Colorado, Engineering Excellence Fund, for RT Embedded Systems Lab	[$50K]
1994	**PI**, University of Colorado, Graduate School, Dean's Small Grant Award, Ph.D. research	[$2K]

R&D CONTRACTS AND START-UP FUNDING AWARDED [$30.65M]

2023-24	**PI**, California State University Chico, Computer Vision for Baseball, CSE 24-0061, 23-0213	[$88K]
2015-16	**PI**, SmartCam, Arctic Domain Awareness, U. of Alaska, Theme 2, multi-spectral imager	[$23K]
2014-15	**Co-I**, SmartCam Concept, U. of Alaska Anchorage, Arctic Domain Awareness Ctr.	[$17K/$5M]
2014-15	**PI**, Erasure Code Algorithm and Performance Analysis, Phase-A	[$25K]
2013-14	**PI**, Proof-of-Concept Hybrid HDD, SSD Storage Access Profiler and Visualization	[$50K]
2012-13	**PI**, Poof-of-Concept for Real-Time HD Video Color Transformation OEM Solution	[$250K]
2012	**PI**, Phase-II Unmanned Aerial Systems Digital Video and Graphics Analysis	[$130K]
2011	**PI**, Phase-I Unmanned Aerial Systems Digital Video and Graphics Analysis	[$35K]
2011	**PI**, Proof-of-Concept for Real-Time HD Video Color Transformation Player	[$60K]
2006-10	**CTO**, Atrato Inc. Software Defined Storage, Principal Architect, Series A, B, C	[$30M]

HONORS AND AWARDS

2024	Joy of Learning speaker: College of Engineering, Academic Affairs Provost & VP	Cal. State University Chico
2023	Research record with **Google h-index=17, Erdös n=3, Research Gate RI=270**	Interest and citation statistics
2021	RT Embedded Components & Systems textbook (Amazon 4.1) – Book Authority	Best Embedded System eBooks
2020	RTES Theory and Analysis - Thirty most popular university MOOCS in October	The Report by Class Central
2020	Upsilon Pi Epsilon, International Honor Society for Computing, and Information	Assoc. for Computing Machinery
2020	Faculty Tenure, College of Engineering, Embry Riddle Aeronautical University	ERAU Prescott
2018	College of Engineering, Research, Scholarship and Design Award for Drone Net	ERAU Prescott
2018	Steelcase Active Learning Center, Grant Program, Selected Instructor	Software Quality Assurance
2016-17	College of Engineering, Research Group of the Year, UAS & Autonomous Syst.	ERAU Prescott
2013-14	Intel Developer Recommended Reading List 2013, 2014, Operating Systems	ISBN 9781584504689
2006	Mensa International Society	Member (#100134555)
2000	Tau Beta Pi National Engineering Honor Society	Colorado Beta, 2000
1998	NASA Group Achievement Award	Tech. Demo flown on STS-85
1994	University of Colorado UGGS	Teaching Assistant Award
1991	McDonnell Douglas Astronautics [Boeing Space Systems], Houston	Division Achievement Award

TEACHING AND ADVISING EXPERIENCE

2020-present **California State University Chico, CS**	***Associate Professor***
CSCI 551, Numerical & Parallel Programming	Fall 20-24 & Spring 21-24
CSCI 612, Applied Computer Vision	Spring 22, 23, 24
CSCI 430, Software Engineering	Fall 20, 21 & Spring 21
CSCI 585, Robotics and Machine Intelligence	Fall 22, 23, 24
CSCI 581, Machine Learning	Fall 24
CSCI 490, CSCI Capstone	Fall 20, 21, 22 & Spring 21, 23, 24
University of Texas: Applied Research Lab sponsor, Sabas Martinez	Fall 2023
Emcraft sponsor, "VR Gesture Robot Control," Andre Shapiro	Spring 2023
CSU Cyber Usr0 sponsor, "Competition Tracker", Ryan Heldt	Spring 2023
Pocket Radar sponsor, "Pose Estimator," Joshua Vong	Fall 2022
CSU Civil Engineering sponsor, "Pot-Hole Mapper," Dalton Bailey	Fall 2022
Pocket Radar sponsor, "Coaching App," Mario Mejia	Fall 2022
Computer Science Academic Advising	Fall 2021 – present
2000-present **University of Colorado, ECEE, ESE**	***Associate Professor Adjunct***
ECEE 5763, Embedded Computer Vision	Spring 15, Summer 16-19 & 21-24
ECEE 5623, Real-Time Embedded Systems (Linux with RT extensions)	Fall 2010-11, Spring 14, Summer 12-24
ECEE 5653, Real-Time Digital Media	Spring 08-12, 14, Summer 12-16
ECEE 5623/4623, Real-Time Embedded Systems (VxWorks RTOS)	Spring 00-07, Sum 02-03 & 08, Fall 00-09
ECEA 5315-5318, Real-Time Embedded System Coursera Specialization	Summer 2020 – present
2014-2020 **Embry Riddle Aeronautical University, CESE**	***Associate Professor***
CEC 450, Real-Time Systems	Fall 15, 16, 17, 18, 19, & 20
CEC 322, Microprocessor Systems Lab	Fall 16 & 19, Spring 17, 18, 20
CEC 320, Microprocessor Systems	Fall 19
CS 317, File and Database Management Systems	Fall 14, 15, 16, 17, & 18
CS 332, Organization of Programming Languages	Spring 15, 16, 17, 18, 19, 20
CS 415, Human Computer Interactive Systems	Fall 15, 16, 17, 18, & 19
SE 420, Software Quality Assurance	Fall 14, Spring 16, 17, 18, 19, & 20
SE 300, Software Engineering Practices	Spring 15
SE 310, Analysis and Design of Software Systems	Spring 15, 16, 17, 18, 19, 20
SE451, Software Engineering Capstone Detailed Design	Spring 16, 20
2012-2014 **University of Alaska Anchorage, CS&E**	***Assistant Professor***
CSE A485, Computer and Machine Vision	Fall 12, Spring 14
CSE A331, Programming Language Concepts	Spring 14
CSE A490, Digital Media and Interactive Systems	Fall 13
CSE A215, Object Oriented Programming for Engineers (C/C++, Java)	Spring 13
CSE A335/A320, Operating Systems Engineering	Spring 13, Fall 13
CSE A225, Computer Organization and Assembly Programming	Fall 12
Fundamentals of Engineering Exam Review – Computer Engineering	Fall & Spring 12, 13

PROFESSIONAL AFFILIATIONS

2020-present	Upsilon Pi Epsilon, Honor Society for Computing, and Information; Association for Computing Machinery
2019-present	AIAA, Sensor Systems and Information Fusion Technical Committee
2014-present	ASEE, American Society for Engineering Education member (#87444)
2000-present	Tau Beta Pi, National Engineering Honor Society, Colorado Beta, 2000
1999-present	Senior member of Institute of Electrical and Electronics Engineers (#41272120)
1986-present	Senior member of American Institute of Aeronautics and Astronautics (#032578)
2016-2020	Council on Undergraduate Research, member (#73762)

STUDENT RESEARCH MENTORING AND ADVISING

2020-present **California State University Chico** ***CSCI***

Undergraduate & Graduate sensor fusion research group **2012-present**

- Cal State Chico, Embry Riddle Aeronautical U., U. of Colorado Boulder
- ELP (2024-present), ERP (2019-24), Drone Net (2016-19), ADAC (2014-16), SmartCam (2012-14)
- BS, MS, PhD student & faculty sensor fusion and sensor network research group.

CSC2 Undergraduate Research advisor, Computer Science & Mechatronics — Summer 2023
Robotics semi-autonomous operation, networking, and sensing
Elephants, Rhinos, and People Sensor Networks and Sensor Fusion

Capstone Sponsor, Computer Science, Alejandro Alfaro — Fall 2023
"Infrasound and Audible Acoustic Fusion and Machine Learning" for ERP

Capstone Sponsor, Computer Science, Jose Sanchez — Spring 2023
"Sensor Fusion Heat Map Web Front End" for ERP Research Group

Capstone Sponsor, Computer Science, Cameron Watts — Fall 2022
"Sensor Network Web Server" for ERP Research Group

M.S. thesis committee chair and advisor, Computer Science, Spencer Pollard — 2024-25
"Physics-inspired Machine Learning for Complex Systems"

M.S. thesis committee, Computer Science, Clemens Strigl — 2024
"Computer Vision and Machine Learning for Climbing Walls"

M.S. thesis committee, Computer Science, Evan Drake — 2023-24
"Gödel machines and introspection"

M.S. thesis committee chair and advisor, Computer Science, Feras Alshehri — 2022-23
"Experimental Design for Comparative Analysis of Sensor Fusion Based Dynamic State Estimation with Traditional and Deep Learning Methods"

M.S. thesis committee, Computer Science, Jay Revolinsky — 2022-23
"MGAT: A Generative Graph Model with Expressive Attention to Motifs"

Ph.D. external committee, Satbayev University, Kazakhstan — Spring 2023
Institute of Automation and Information Technologies**,** Dana Utebayeva
"Research of effective UAV detection using acoustic data recognition."

Ph.D. external committee, Satbayev University, Kazakhstan — Spring 2023
Institute of Automation and Information Technologies**,** Ulzhalgas Seidaliyeva
"Research of effective UAV detection using smart sensors."

2014-2022 **Embry Riddle Aeronautical University** ***CESE, GSIS, Robotics, MS UASE, AE Astro***

Capstone advisor, CESE – Mr. Fusion Mobile Robot, and Arctic Power — 2019-20, and 2014-15
Capstone advisor, AE, ME Robotics – Satellite Service, Machine Vision, LIDAR — 2017-2020
M.S. thesis committee chair and advisor, MS UASE, Jonathan Buchholz — 2018-19
"Multirotor UAS Sense and Avoid with Sensor Fusion"
M.S. thesis committee, GSIS, Bryce Barrette — 2016
M.S. and undergraduate UAS engineering research on-going, Drone Net — 2017-2020
Undergraduate research, Software-Defined Multi-Spectral Imager — 2015-16, 2016-17

2000–2020 **University of Colorado Boulder** ***CSCI, ECEE***

ECEE 5840, M.S. research, Machine Vision, Acoustic Camera, Machine Learning — Summer 16, Fall 16, Fall 17, Spring 17
ECEE 5840, M.S. research, Real-Time Computer Vision, Visible+LWIR Fusion — Fall 13, Spring 14 &15, Fall 15, Spring 16
ECEE 5840, Graduate design, Ultrasound Venous Flow Visualization — Fall 11
ECEE 5840, M.S. independent study, Real-Time Digital Video — Summer 06, Fall 03 & 06
M.S. research project, "A Hybrid Sign Language Recognition System", V. Culver — 2004
ECEE 8990, Doctoral thesis advising, Comp. Arch., Machine Vision — Fall, Spring 04 & 05, Spring 2014
Ph.D. committee, Computer Science, Wang-ting Lin, Real-Time Systems — 2009
"Impact of Non-stationary Workload on Resource Reservation Based Slack Reclamation."

2012–2014 **University of Alaska Anchorage** ***CS&E***

Fellowship advisor, Alaska Space Grant, Autonomous Submersible I, II — 2012-14
Scholarship program, Alaska Space Grant — 2012-14
Alaska Native Science and Engineering Program, scholarship applicant advising — 2012-14

PROFESSIONAL SERVICE AND DEVELOPMENT

2023-present	**CSU NSF CURE-E** (Cultivating Culture of Entrepreneurial Mindset & Undergrad. Research) Faculty Fellow
2024	**QIST CSU Workshop** – Quantum Machine Learning, June 26-28, 2024, CSU San Marcos
2023-24	**QIST CSU FOLC** (Faculty Online Learning Community), QIST in the CSU NSF program
2024	**Cal State QLT (Quality Learning and Teaching)**, course completion, California State University, Chico
2023	**QIST CSU Workshop** – Introductory QIST and Educational Modules, June 14-16, 2023, CSU San Marcos
2023	**Cal State FDEV**, EDI Teaching: Positionality, Class Climate, Planning, Accessibility, Culture, & Community
2022-present	**AIAA Sensor Systems and Information Fusion**, Technical Committee
2019-2022	**National Academy of Science**, Eng. & Med., TRB ACRP 07-18, Airfield Design Guidelines for Large UAS
2021	**ASEE Pacific Southwest** 2021 Conference session co-chair for Lightening Talks and Diversity sessions
2021	**Cal State FEDV**, Faculty Writing Community, California State University, Chico
2020	**Cal State FDEV**, "GoVirtual" Summer Workshop, California State University, Chico
2017	**National Science Foundation**, Graduate Research Fellowship Panel
2016-20, 23-24	**National Institute of Justice**, Graduate Fellowship Research Standing Review Panel for computing
2016-2018	**AIAA Computer Systems**, Technical Committee
2014-15	**AIAA Software Technical Committee**, Cybersecurity Working Group
2014	**National Institute of Justice**, Standing Review Panel, Video Technology and Digital Evidence
2014	**Vice Chair, IEEE Executive Committee**, Alaska Section (interim, January to May)
2012-14	**Affiliate Director, Alaska Space Grant**, University of Alaska Anchorage
2010-12	**IEEE RAS Founder, Chair, Treasurer**, IEEE RAS (Robotics and Automation) Chapter, Denver Region 5
2006-07	**SNIA** Member of Storage Networking Industry Association – IOTTA and SMIS Technical Working Groups
2000	**Co-founder, Embedded Systems Engineering Program**, Electrical Engineering, CU Boulder
1991-92	**NASA JSC Mission Control**, Shuttle mission ops., Guidance & Procedures software, Houston, Texas
1986	**U.S. Marine Corps**, Officer's Candidate School, Platoon Leadership Class graduate, Quantico, Virginia

JOURNAL, DESIGN COMPETITION AND CONFERENCE SERVICE

2022-24	**AIAA SciTech**, Sensor Systems and Information Fusion Technical Committee, SSIF Track paper reviews
2022	**Transportation Research Board**, "Airfield Design for Large Unmanned Aircraft Systems-A Guide", editor
2020	**AIAA Journal of Aerospace Information Systems**, manuscript review for aviation scheduled imaging.
2020	**MDPI Remote Sensing** journal, manuscript review for spatiotemporally fused satellite images
2019	**Sensors** journal, manuscript reviewer for remote sensing spatiotemporal fusion submission
2018-19	**PLOS One** (Public Library of Science) journal, manuscript review, virtual network streaming submission
2018	**AIAA SciTech**, Computer Systems Technical Committee, Computer Engineering Track paper reviews
2015-18	**SpaceX Hyperloop** Pod Design, AZ-Loop advising, Texas A&M Design Weekend judge.
2015	**IEEE Transactions on Systems, Man, and Cybernetics**: Systems, manuscript review
2015	**AIAA Journal of Aerospace Information Systems**, manuscript review for Cube Satellite instrumentation
2013-14	**Alaska Space Grant Symposium**, Director's Meeting, Juneau and Anchorage, Alaska

RESEARCH VISITS AND COLLABORATION

2024-present	**Elephant Listening Project** – acoustic and visible sensor fusion research collaboration with U. of Cornell
2022-present	**CSU ALPHA & QIST** - Algorithms & Languages to Program Hybrid Arch. (Quantum, GPU, Neuromorphic)
2015-2025	**ICARUS** –Instrumentation and Control of Autonomous and Robotic Unmanned Systems, Embry Riddle
2021-2023	**CSU Chico Farm** collaboration for sensor networks for large animal detection, tracking, and monitoring
2019	**Wright Brother's Institute**, Air Force Research Lab, Predictive Analytics Workshop, Dayton Ohio
2018	**NASA Ames Research Center**, FAA/NASA UAS UPP Workshop, Moffett Field, California, March 15, 2018
2016	**FAA ASSURE**, Unmanned Aircraft Systems Technical Analysis, Santa Fe New Mexico, December 2016
2015	**DHS,** U. of Alaska Anchorage, Arctic Domain Awareness Center, Maritime Technology Field Research
2011-14	**Intel Corp.**, participant, Intel Embedded System Research and Education, Chandler Arizona
2013	**Intel Labs** University Collaboration Symposium, San Francisco California
2011	**Intel Innovation Council**, Data Protection Advanced Development
2009-10	**Microsoft Product Showcase**, Windows Server and MS SQL Million IOPs demonstrations
2009	**Advanced Computing Systems Research Program** Workshop, Sept. 16-17, Annapolis MD
2002-06	**Intel Corp. and Emulex Joint Development project**, Sunrise Lake, Fiber Channel, SAS I/O chipset
1997-00	**U. of Arizona Steward Observatory**, Spitzer Space Telescope, Dr. George Rieke
1994-97	**NASA Jet Propulsion Lab**, AI Group - Dr. Steve Chien and Dr. Dennis Decoste

CURRENT UNIVERSITY SERVICE (University, College, and Department Levels)

2014-present	**University Service: PI, Sensor Systems & Information Fusion Research Group** for ELP & ERP - California State U. Chico, U. of Cornell, Embry Riddle Aeronautical U., and U. of Colorado Boulder.
2023-2026	**University Service: Member, Writing Committee** representing the College of Engineering, Computer Science, & Construction Management, California State U. Chico.
2021-present	**College of Engineering**: **Chair, Outstanding Thesis Committee**, California State University Chico.
2022-present	**Computer Science Department: Chair, Graduate Curriculum Committee**, California State U. Chico.
2021-present	**Computer Science Department: Member, Scholarship Committee**, California State U. Chico.
2022-present	**Computer Science Department: Member, Assessment**, California State U. Chico.
2023-present	**Computer Science Department: Member, Constitution & Bylaws Committee**, California State U. Chico.
2024-present	**Computer Science Department: Member, RTP for Lecturers**, California State U. Chico.
2024-present	**Computer Science Department: Chess Club Co-advisor**, California State U. Chico.

UNIVERSITY SERVICE

2023-2024	Chico STEM Connections Collaborative, University Undergraduate Research program, CSC2 Engineering
2024	Adelante Researchers Program faculty mentoring for Robotics Virtual Worlds, California State U. Chico
2023	CSU Faculty Development, created and led Faculty Learning Community, STEM Writing with Story Telling
2023	CSU Technology & Learning Program, contributed to workshop on use of ChatGPT for assignments.
2023-2025	California State University Chico, Department of Computer Science faculty search committee
2022-2023	Faculty Search Committee, Computer Engineering, California State University Chico
2021-2022	College of Engineering, Strategic Planning Steering Committee, California State University Chico
2020-2021	Computer Science Curriculum Committee, California State University Chico
2020-2021	Computer Information Systems Curriculum Committee, California State University Chico
2020-2021	Computer Science Lab Committee, California State University Chico
2014-2020	Tau Beta Pi National Engineering Honor Society, Arizona Delta, Faculty Co-Advisor, Embry Riddle
2014-2020	Capstone Advising and Design Review, Embry Riddle College of Engineering and Computer, Electrical, Software Department (CESE Software Engineering, ME Robotics, AE Astro teams as requested)
2018-2020	Study Abroad & Global Engagement – ERAU CESE planning for Ireland program at U. of Limerick
2018-19	Aerial robotics STEM camp (2018, 2019), remote sensing and machine vision, Embry Riddle Prescott
2016-17	Faculty Senate, College of Engineering, Embry Riddle Prescott
2016	Faculty Search Committee, Simulation, Games and Animation, Embry Riddle Prescott
2015-16, 17-18	Faculty Senate Alternate, College of Engineering, Embry Riddle Prescott
2015	Faculty Search Committee, Electrical, Computer and Software Eng., Embry Riddle Prescott
2012-14	Lab Director, Computer Prototype and Assembly Lab, University of Alaska Anchorage
2012-14	Alaska Native Science and Engineering Program
2012-14	Computer Systems Infrastructure Committee, University of Alaska Anchorage
2012-13	Fundamentals of Engineering Exam Review Instructor – Computer Engineering (Fall & Spring 2012, 2013)
2012-13	Computer Science and Engineering Curriculum Committee, University of Alaska Anchorage
2013	Faculty Search Committee, Computer Systems and Engineering, Univ. of Alaska Anchorage
2011-12	Freshman Seminar speaker and prospective engineering student visits, CU Boulder
2011-12	Capstone Engineering – expansion to multiple semesters, CU Boulder

COMMUNITY SERVICE

2023	Chico POET (Paternal Order of Enlightenment and Truth) society dinner November 9th, guest speaker
2019	Greater Phoenix & Prescott MENSA – Talk on Hyperloop and the Future of Transportation
2017, 2015	Yavapai Soccer Club, U8 Assistant Coach 2017, U6 Coach 2015, Prescott Valley, Arizona
2015-16	Prescott Regional SciTech, Infrared Remote Sensing Demonstration, Prescott, Arizona
2015	Night at the SPOT Museum, Infrared Machine Vision Demonstration, Prescott, Arizona
2001	Louisville Recreation Youth Basketball, Coach, Louisville, Colorado
1997-2001	Louisville Recreation Youth Soccer, U6, U8, U10 Coach, Louisville, Colorado

TEXTBOOK PUBLICATIONS

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3. S. Siewert, "*Multi-Modal Active and Passive Sensor Fusion Systems: Software and Computing Platforms for Unmanned Aerial Systems*", Southwest Research Institute, January 2021.
4. S. Siewert, "*Sensor and Information Network Fusion – Systems and Applications Research and Development*", CSCI 300 Computer Science Seminar, California State University, Chico, September, 2020 [poster].
5. S. Siewert, "*Multi-modal Active and Passive Sensing Experiments for Fail-Safe and Fail-Secure Urban UAS Traffic Management*", Johns Hopkins Applied Physics Lab, May 2019.
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8. S. Siewert, "*Sensor Fusion Infrastructure for Urban Drone Traffic Management*", Dronesphere Colloquium and Panel, University of Toronto, February 23, 2019.
9. S. Siewert, "*Future Transport – Potential of UAS and Hyperloop*", PMI Memphis Tennessee chapter, Annual Professional Development Day, Sept. 21, 2018.
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Note: All publications and creative works can be found at Sam-Siewert-Publications.pdf