

PROFESSIONAL EXPERIENCE

Please list your professional experience. (Limit 5000 characters.)

When your application is reviewed by the Admission and Advancement Review Panel, they will count the years you have been in professional practice and ensure that your work experience plus your education experience credit (described on the Applicant Information Tab) total 10 years or greater.

Please DO NOT copy and paste from your CV or resume. You may attach it (on the Attachments Tab) as a backup to the description you enter below.

- I have twenty-six years of Research and Development (R&D), acquisition, academic, and technical executive headquarters experience with the United States Air Force.
 - 1999-2003: Vice Director for Aerospace Analysis, US Northern Command, North American Aerospace Defense (NORAD), US Strategic Command, and US Space Command
 - Empowered to fulfill all duties and responsibilities of the Director, an SES-4 (SES-Senior Executive Service, SES-4 is a two-star equivalent)
 - Manages a 15-person Directorate on projects involving components, the Joint Staff, and defense agencies
 - Prioritizes NORAD (North American Aerospace Defense) and USSPACECOM (US Space Command) technical and analytical efforts, reviews progress, plans, and manages resources
 - Corrects technical and operational deficiencies in missions in missile warning, space surveillance, and computer network attack
 - Assists in developing new models and simulations, conducts analysis, publishes and defends results
 - Represents analytical and technical matters on Command-wide and defense-wide management bodies
 - 1996-1999: Chief Scientist/Technical Director and Deputy Commander, European Office of Aerospace Research and Development (EOARD). International science and technology program experience, including as Information Technology Officer for Tri-service organization.
 - 1995-1996: MS, National Resource Strategy with specialty in Biotechnology Industry: Graduate of the Industrial College of the Armed Forces (ICAF, an equivalent chief executive management preparation, attended as a senior engineering manager), Graduate of Defense Acquisition University DAU (1995-1996), Senior Acquisition Executive (1995-1996)
 - 1991-1996: Division Chief, Advanced Guidance Division, and Branch Chief, Seeker Technology Branch, Armament Directorate, Air Force Research Laboratory: to research and develop missile seekers and sensors for precision guided munitions
 - 1990-1991: Deputy Chief, Sensor Fuzed Weapon (SFW, smart cluster bomb) Subsystems Engineering Division, Aerospace Systems Division, Systems Program Office, Supervises and manages 11 engineers and directs countermeasure test program SFW, Provide technical support for manufacturing programs, valued over \$121 million, to prepare SFW for mass production
 - 1989-1990: Air Command and Staff College (ACSC), ACSC is equivalent mid-level leadership/management course, attended as an engineering manager
 - 1984-1989: Four and one-half years as associate professor and director for courses in communication theory, space communication and instrumentation at the United States Air Force Academy (USAFA)

- 1982-1984: Ph.D. in electrical engineering, Dissertation Title: Modeling and Control of Large Flexible Space Structures using a Balanced Approach
- 1978-1982: High-Energy Laser Optical Engineer and Program Control Officer, Hands-on and contract experience in high energy lasers, wavefront sensing, and optical tracking.
- 1977-1978: MSEE. specializing in electro-optical control systems, Thesis Title: Fundamental Limitations of Optical Trackers
- 2004-2019: Professor of Electrical and Systems Engineering (2004-2019), Colorado Technical Uni

- - Assume Chair duties in College of Engineering in his/her absence
 - Interim Chair of College of Engineering, when Chair retired or was vacated (2019).
 - Responsible for managing and teaching undergraduate courses in electrical and computer engineering
 - Responsible for managing and teaching graduate courses in electrical and system engineering
 - Mentor and evaluator of adjunct professors in electrical and system engineering for undergraduate and graduate courses
 - Advised senior leadership on the ABET Accreditation Process for CTU's re-accreditation
 - Faculty Advisor of CTU IEEE Student Branch (2008-2019).
- Below is a summary of my teaching experience:
 - Approximately 20 years of university teaching experience in technical areas.
 - Approximately 15 years as Professor of Electrical and Systems Engineering at Colorado Technical University
 - Four and one-half years as Associate Professor at United States Air Force Academy (USAFA)
 - Six months as adjunct professor at the University of West Florida.
 - Taught approximately 40 different courses in electrical engineering, systems engineering, mathematics and physics.

SIGNIFICANT PERFORMANCE

Significant Performance (*Required)

Please list demonstrated significant performance over a period of at least five years. Years need not be consecutive. (Limit 5000 characters.)

It is required that your list of achievements include dates.

Be sure to clearly summarize your key significant performance examples. An extensive write up will make the Review Panel have to hunt for the evidence that you qualify.

Please DO NOT copy and paste from your CV or resume. You may attach it (on the Attachments Tab) as a backup to the description you enter below.

Attachments

Please upload any attachments that will support what you have entered on the Professional Experience and Significant Performance tabs.

Please be aware any personal information in your attachments will be viewable by reviewers of this application.

Note: The attachments uploaded will be displayed below. The maximum attachment size allowed is 25MB.

Only pdf, png, jpeg, jpg, gif, jpe, and bmp file formats are allowed.

References

Obtain the IEEE member number of your references before completing this step.

For tips on how to obtain references, please visit the [Senior Member Resource Page](#)

Please note, once you Submit your application, your references will receive an email notification, prompting them to log in, review your application and provide their reference.

SUMMARY OF PROFESSIONAL EXPERIENCE

1977-2003: I have twenty-six years of Research and Development (R&D), technical acquisition, academic and technical executive headquarters experience with the United States Air Force (USAF)

2004-2019: Professor of Electrical and System Engineering, Colorado Technical University

USAF WORK EXPERIENCE IN REVERSE CHRONOLOGICAL ORDER (see attached resume for more detail job description)

1999-2003: Vice Director for Aerospace Analysis, U.S. Northern Command, North American Aerospace Defense (NORAD) and U.S. Strategic/Space Command (USSTRATCOM/USSPACECOM)

- Empowered to fulfill all duties and responsibilities of the Director, an SES=4 (SES - Senior Executive Service, SES-4 is a two-star equivalent)
- Manages a 15-person Directorate on projects involving components, the Joint Staff and defense agencies
- Prioritizes NORAD and USSPACECOM technical and analytical efforts, reviews progress, plans, and manages resources
- Corrects technical and operational deficiencies in missions involving missile warning, space surveillance and computer network attack
- Assists in developing new models and simulations, conducts analysis, publishes and defends results
- Represents analytical and technical matters on Command-wide and defense-wide management bodies

1996-1999: Chief Scientist/Technical Director and Deputy Commander, European Office of Aerospace Research and Development (EOARD). International science and technology experience in working with European, Middle Eastern, and African engineers and scientists, Served as Information Technology Officer for Tri-service technical organization

1995-1996: MS, National Resource Strategy with specialty studies in Biotechnology Industry, Graduate of the Industrial College of the Armed Forces (ICAF, an equivalent chief executive management preparation while attending as a senior engineering manager), Graduate of Defense Acquisition University (DAU) to serve as a Senior Acquisition Executive

1991-1996: Division Chief, Advanced Guidance Division and Branch Chief, Seeker Technology Branch, Armament Directorate, Air Force Research Laboratory. Research and develop missile seekers and sensors for precision guided munitions, Supervises 85+ engineers and scientists and 31-person branch

1990-1991: Deputy Chief, Sensor Fuzed Weapon (SFW, smart cluster bomb), Subsystems Engineering Division, Aerospace Systems Directorate, Supervises and manages 11 engineers and directs countermeasure test program

1989-1990: Air Command and Staff College (ACSC), ACSC is equivalent to mid-level leadership/management course while attending as an engineering manager

1984-1989: Four and one-half years as associate professor and director for courses in communication theory, space communication and instrumentation at the United States Air Force Academy (USAFA)

1982-1984: Ph.D. in electrical engineering, Dissertation Title: Modeling and Control of Large Flexible Space Structures using a Balanced Approach, specialized in large-scale systems theory

1978-1982: High-Energy Laser Optical Engineer and Program Control Officer, Hands-on and contract experience in high-energy lasers, wavefront sensing, and optical tracking.

1977-1978: MSEE, 18-month study, specializing in electro-optical control systems. Thesis Title: Fundamental Limitations of Optical Trackers

2004-2019: WORK EXPERIENCE AS PROFESSOR OF ELECTRICAL AND SYSTEM ENGINEERING, COLORADO TECHNICAL UNIVERSITY (CTU)

- Assume Chair duties of College of Engineering in his/her absence
- Interim Chair of College of Engineering when Chair retired or position being vacated (2019)
- Responsible for managing and teaching undergraduate courses in electrical and computer engineering
- Responsible for managing and teaching graduate courses in electrical and system engineering
- Mentors and evaluates adjunct professors in electrical and system engineering for undergraduate and graduate courses
- Advised senior leadership of the ABET (Accreditation Board of Engineering and Technology) for CTU's re-accreditation
- Faculty Advisor/Mentor of CTU IEEE Student Branch (2008-2019)

BELOW IS SUMMARY OF TEACHING EXPERIENCE (see attached list of university teaching experience and courses taught)

Approximately 20 years of university teaching experience in technical areas

- Approximately 15 years as Professor of Electrical and System Engineering at Colorado Technical University (CTU)
- Four and one-half years as Associate Professor at United States Air Force Academy (USAFA)
- Six months as adjunct professor at the University of West Florida (1994)

- Taught approximately 40 different courses in electrical engineering, computer engineering, and system engineering, mathematics and physics

TEACHING AWARDS

- 2020-2021: Top Visionaries in Education, Global Forum of Education and Learning, Las Vegas, NV
- 2015: Faculty of the Year in Teaching Innovations, Colorado Technical University (CTU), Competed among 1200 professors and adjuncts
- 2014: Student-Nominated Experience Award, CTU
- 2008: Faculty of the Year, CTU, 2008
- 1988-1989: Military Educator of the Year, United States Air Force Academy (USAFA)
- 1987-1988: Electrical Engineering Educator of the Year, United States Air Force Academy (USAFA)

AWARDS AND ACCOMPLISHMENTS (see attached resume for more detailed job description and accomplishments)

- 2013: Published "Circuit Analysis for Dummies", Wiley, April 2013
 - 1978-2019: Published over 60 technical papers and/or presentations and taught over 40 technical courses (see near end of attached resume for list of publications and presentations and list of university experience and courses taught)
 - 2017: Invited Paper: Best Annual Paper and Best Quarterly Paper for Jul-Sep 2017, "Leveraging Internet Marketing Technologies and Green Screen Techniques for Developing Engaging STEM and Online Content (Update)", Transactions on Techniques in STEM Education, Jul-Sep 2017
 - 2017: Invited Paper: "The Challenges of Teaching Engineering Labs Online (Update)", Transactions on Techniques in STEM Education, Oct-Dec 2017
 - 2018: Invited Paper: "Using Guidelines from Cognitive Load Theory with Applications in the Traditional/Online Flipped Classroom Approach and Entrepreneurial-Minded Learning," Journal of Online Engineering Education, Dec 2018
 - 1995: Recipient of Air Force Research Laboratory (AFRL)/Armament Director Supervisor of the Year
 - 1979: Recipient of Air Force Systems Command (AFSC) Quarterly Scientific Achievement Award, Apr-Jun 1979 for an active alignment of high-energy laser experiment using laser power measurements
- Aug 99-Jul 03
- Evaluated air defense options using interceptor forces to protect National Capitol Region for various multi-layered and air defense scenarios after 911.
 - Personally evaluated and reviewed over 80 Advanced Concept Technology Demonstrations (ACTD)

-- First-ever command role in ACTD process for homeland defense against Global War on Terrorism (GWOT)

-- ACTD Technologies include: unmanned combat air vehicles, unmanned aerial platforms for biological and chemical detection, urban warfare, command and control software suite for battle management in air, land, and littoral environments, sensors/detectors and processing for homeland defense, hyperspectral sensing technology, aerostat platforms and many others

Jul 96 - Jul 99

- Successfully led 18-person team and leveraged information technology to foster international cooperation on key technologies

- Established and institutionalized an automated workflow and training system yielding a record high of over 1200 international activities

- International activities reached high productivity heights: 781 foreign visiting scientists, 222 conferences and workshops, and 290 contracts

Jul 95- Jun 96

- As Senior Engineering Manager received Masters of Science in Resource Strategy (equivalent to Chief Executive Management) and specialized in studying the biotechnology industry

- Graduate of Defense Acquisition University (DAU) to qualify for senior acquisition and technical leadership positions

Jun 91- Jun 95

- Received Supervisor of the Year in 1995,

- Managed and evaluated sensor and seeker technologies that was later incorporated in Joint Direct Attack Munition (JDAM), successfully used in Operation Enduring Freedom in Afghanistan and Operation Iraqi Freedom

Jun 90- Jun 91

- Successfully lead evaluation process to prepare (SFW - smart cluster bomb), for a \$25 million initial production and development

- Realigned test and production program saving \$30 million

- Verified compliance of over 300 performance requirements for first lot of production, valued over \$95 million

Jul 90-Jun 92

- Attended as mid-level engineering manager to complete 9-month program for preparation for Senior Management position

Dec 84-Jul 89

- Performed field testing experiments using optical trackers for the Strategic Defense Initiative Office (now Missile Defense Agency)

- Received two educator awards for developing innovative educational demonstrations and classroom leadership

Aug 82-Dec 84

- Received Ph.D. in electrical engineering with Dissertation Title: On the Extensions of the Balanced Approach for Model Reduction with Applications to Large Flexible Space Structure (received degree in 1987)

Dec 78- Aug 82

- Received Air Force Systems Command Outstanding Quarterly Technical Achievement Award for Apr-Jun 1979 as a member of a 4-person team for a critical laser alignment experiment

Jun 77- Dec 78

- Received Masters in Electrical Engineering, specializing in electro optics and control systems

- Received Masters in Electrical Engineering, specializing in electro optics and control systems