



Patrick M. Fay
Sr. Technologist
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Mr. Patrick Fay holds a Bachelor of Science degree in Computer Science from Colorado State University. He has worked in the fields of Accident Investigation, Forensic Video, and Computer Graphics since 1999. Over the last 25 years, he has been trained on drones, survey equipment, video processing, 3D modeling and animation, vehicle crash data extraction, and specialized computer systems both formally and on-the-job. During his career, he has surveyed incident sites and processed electronic data from security cameras, cars, trucks, and trains. He has encountered videos of myriad types from a variety of different sources, including many on-board videos from locomotives. He has analyzed these locomotive videos to determine position, timing, speed, horn activation, and control operation, among other things.

Education

B.S., Computer Science, Minor in Mathematics, Colorado State University, 1991

Professional Affiliations/Honors

Society of Automotive Engineers (SAE)

American Association of Forensic Scientists (AAFS)

National Association of Professional Accident Reconstruction Specialists (NAPARS)

Positions Held

Engineering Systems Inc., Centennial, Colorado
Senior Technologist, 2022 – Present

Fay Scientific & Media, Thornton, Colorado
Principal, 2020 – 2022



Fay Engineering Corporation, Denver, Colorado
Director of Graphics, 1999 – 2019

SYKES, Boulder, Colorado
Research & Development Manager, 1997 – 1998

SYKES, Boulder, Colorado
Software Localization Manager, 1995 – 1997

SYKES, Boulder, Colorado
Software Localization Engineer, 1994 – 1995

Decisioneering, Inc., Denver, Colorado
Programmer/Analyst, 1991-1994

Continued Education

Level 1 sUAS Applications Certified Thermographer, Infrared Training Center, April, 2024

PROPS Certified Pilot, In-person flight mastery training and Aerial Accident Reconstruction, DroneU, September, 2023

FARO Laser Scanner Operator (Two-day), FARO Technologies, April, 2022

Derailment Investigation & Prevention Seminar, Wolf Railway Consulting, November 2019

Accessing and Interpreting Heavy Vehicle Event Data Records, SAE International, 2018

nData TrialDirector 6 Certified Trainer Program, Gilbert, AZ, 2013

At-Scene Crash Investigation Correspondence Course, IPTM, University of North Florida, 2013

Publications/Presentations

Fay, Richard, **Fay, Patrick**, Taking the Next Step: Applying Human Motion Capture from Accident Reconstruction to Ergonomics 2015 Annual Applied Ergonomics Conference March 16-19, 2015, Nashville TN

Fay, Patrick of Fay Engineering Corp., Synchronized Data Streams in Accident Investigations RMASIU Monthly Training Meeting Centennial, CO, June 17, 2014

Fay, Patrick of Fay Engineering Corp., Introduction to Motion Capture (MOCAP), The 17th Annual RMASIU (Rocky Mountain Association of Special Investigative Units) Seminar and Expo on Insurance Fraud, Centennial, CO, May 3, 2013

Fay, Patrick of Fay Engineering Corp., Broker, Jeffrey, Ph. D, Biomechanics Engineering, Weinberger, Robert, The Weinberger Law Offices, Integrated 3D Human Motion Analysis For Workplace Assessment, 14th Annual Applied Ergonomics Conference, February 2, 2011, Orlando FL

Fay, Richard, and **Fay, Patrick**, of Fay Engineering, Reconstructing and Evaluating a Workplace Fatality Using Human Motion Capture 08DHM-0029, Presented at the 2008 Human Digital Modeling Conference, June 2008, Pittsburg, PA.

Fay, Richard and **Fay, Patrick** of Fay Engineering, High Impact Safety Training with Realistic Computer Graphics, 2003 ASSE Professional Development Conference

Fay, Patrick of Fay Engineering, Visualizing the Use of Accident Reconstruction Tools, Software and Technology in Highway Design and Safety, 2002 Transportation Research Board Conference, Snowbird, UT.

Fay, Richard J., Robinette, Ric D. and **Fay, Patrick M.** of Fay Engineering, PC-Crash and HVE, an Overview of Similarities and Differences, 2001 SAE Conference, Detroit, MI

Fay, Patrick of Fay Engineering, Using Motion Layers to Analyze Pre-Accident Timelines, 2000 HVE Forum, San Diego, CA

Fay, Patrick, Keeping an Eye on Things, 1999 Popular Home Automation