KNOTT LABORATORY, LLC
Forensic Engineering & Visualization

Appendix A

Curriculum Vitae

BISHOP GOGUEN, B.A.

PROFESSIONAL SUMMARY:

Forensic Visualization Expert with a strong background in 3D design, animation, and technical reconstructions for accident and crime scene investigations. Highly skilled in lidar data processing, camera tracking, and visual storytelling with a focus on scientific accuracy.

EDUCATION:

B.A., Digital Art & Animation, The New England Institute of Art, Brookline, MA, 2011

EXPERIENCE:

Forensic Visualization Expert, Knott Laboratory, LLC, Centennial, CO, 2024 to Present

FORENSIC ENGINEERING:

Mr. Goguen joined Knott Laboratory's Forensic team in September 2024, specializing in the creation of scientifically accurate visualizations and graphics for forensic investigations. He works closely with engineers to develop detailed reconstructions for a wide range of cases, including vehicle accidents, workplace incidents, shooting events, and other forensic analyses. Using advanced 3D modeling techniques, photogrammetry, matchmoving, and point cloud analysis, he ensures that reconstructions are both visually compelling and technically precise.

Mr. Goguen is an FAA-licensed remote pilot and performs aerial surveys of sites using unmanned aerial systems (drones), contributing to accurate data collection for forensic reconstruction.

With a strong commitment to innovation, Bishop continuously evaluates emerging technologies and software to enhance forensic visualization methodologies, keeping Knott Laboratory at the forefront of the industry.

3D DESIGN:

Mr. Goguen is an experienced 3D artist with extensive expertise in creating accurate visual representations using a variety of digital tools. His skill set includes 3D modeling, texturing, animation, and photorealistic rendering. He has worked with lidar scanning data and point clouds to develop precise reconstructions and visualizations.

His proficiency extends to matchmoving, virtual camera integration, and compositing, ensuring seamless integration of 3D elements with real-world imagery and footage. His dedication to precision and visual storytelling makes him a valuable contributor to forensic and creative projects alike.

AREAS OF EXPERTISE:

- Modeling, texturing, lighting, photorealistic rendering, and animation
- Photogrammetry, videogrammetry, and matchmoving
- Lidar and drone-based data capture, point cloud processing and cleanup
- Video editing and compositing
- Evidence-based diagramming

SOFTWARE PROFICIENCES:

- Autodesk 3D Studio Max
- Chaos V-Ray
- Blender
- ZBrush
- Adobe Substance Painter & Designer
- Adobe Photoshop
- Adobe After Effects
- Unreal Engine
- Agisoft Metashape Professional
- Cyclone Register 360
- Cloud Compare
- Autodesk Recap Pro
- PhotoModeler Premium
- Adobe Premiere
- Google Earth Pro
- Boris FX Syntheyes
- Microsoft Office Suite

LICENSES AND CERTIFICATIONS:

FAA-License Remote Pilot #5124999

FORENSIC VISUALIZATION CASEWORK EXPERIENCE:

Workplace Accidents

- Slip events
- Trip events
- Fall events
- Machinery and electrical malfunction incidents

Shooting Incidents

- Officer-involved shootings analyzed through body-worn cameras, patrol vehicle footage, surveillance video, and mobile recordings
- Reaction time analysis
- Incident timeline creation
- GPS data mapping
- Video synchronization

Vehicle Accident Reconstruction

- Pedestrian impact analysis and movement dynamics
- Commercial and consumer vehicle collision reconstructions
- Physically based simulation
- Dashcam and security footage synchronization
- Final rest positioning and evidence-based diagramming
- Speed calculations

VISUALIZATION PROCESSES:

- Drone and lidar data capture and conversion into point clouds and virtual 3D scenes
- Site reconstruction from video footage and photographs
- Motion capture and video-based human motion tracking
- Virtual sun and shadow analysis
- Evidence, vehicle, and pedestrian tracking and plotting
- Vehicle and human motion tracking
- Camera matching and perspective alignment
- Vehicle and biped animation aligned to video and photographic evidence
- Graphics creation for presenting data-driven visual analysis
- Tailored workflows depending on case requirements