

BLAKE SENFTNER

6338 S Gallup Ct ▲ Littleton, CO 80120 ▲ (213) 400-6424 ▲ bsenftner@earthlink.net

Highly accomplished hands-on Technology Executive seeks a Next Challenge

Accomplishments

- Lead software engineer of over 40+ commercial, media rich, software products, a Global Patent author, and MBA
- Lead Engineer, enterprise facial recognition system, thru three generations of product, CyberExtruder Inc. Real time video analysis, face detection, facial feature recovery, expression neutralization, face and head 3D reconstruction, facial recognition, REST API and server, universal exporting system technology, distributed system synchronizations, fault tolerance and recovery, all in C++ as a self-contained Enterprise class FR Server, processing 25M facial compares per second per core while simultaneously displaying live videos with annotated FR tracking and secure IoT integrations.
- Founder of Personalized Advertising and VFX Technology Studio, originally named *Flixor*, pivoted to *3D Avatar Store*
 - Wrote and acquired a [global patent for Automated Actor Replacement in Filmed Media](#),
 - Created and filed the patent in 8 languages in 8 independent patent jurisdictions
 - Hired foreign language native technologists to independently translate the patent to their language, and independently translate back to English for technical and legal verification.
 - With a co-engineer, created a globally scaled, self-hosted, fault tolerant, web application and API service performing automated 3D Reconstruction of real people from one photograph,
 - System capacity was 125,000 new, unique-to-each-consumer 3D avatars per hourSole developer of complete state-of-the-(then)-art VFX pipeline for large scale automated actor replacements for the creation of personalized advertising
- MBA with Beta Gamma Sigma Honors (4.0 GPA) in International Business and Finance; MBA Thesis was early draft of *Flixor* business plan and the Automated Actor Replacement Patents
- 15 consumer video game titles, across four separate target hardware platforms:
 - Vic-20, C-64 (founded a game studio at age 17, 1982),
 - Assorted Sony PlayStation and PS2 titles: PGA Golf, NCAA Football, Brunswick Bowling
- Team member for two game console operating systems; authored both video subsystems:
 - 3D0 Game console,
 - Also, team member of *Road Rash 3D0* title,
 - Sony PlayStation's runtime video OS support & RTF file system
 - Worked in Tokyo with original OS team as 3D and real time streaming specialist
- Director of Research for a pre-You Tube Live Internet Video Streaming Service: Rotor Communications
 - Pre-Flash codec, everything done with interleaved multi-resolution streams, rented satellite time for broadcasts, and global clients including Australian Universities and network broadcasters such as the NHL
 - Created a transparent digital watermarking technology enabling real time synchronization of video and non-video events across any digital video receiving device, increasing company valuation by \$25M
 - Company representative at MHEG meetings (Multimedia & Hypermedia Experts Group)
- Managing Engineer of PlayStation Game Studio, Sennari Interactive
 - Managed all internal aspects of production, technical and creative staff management for a video game studio with two to five simultaneous PlayStation and mobile phone game productions ongoing, while also participating in PlayStation title development as team member writing character behavior AIs; also authored the 3DSMAX Exporter, evaluated new platforms/SDKs/libraries, potential partnerships, as well as hired and managed outside contractors
- Founder, Interactive Games Division at Academy Award winning Rhythm & Hues Studios,
 - Architect of production system and runtime engine for real time 3D platformer featuring film quality animation
 - Authored dozens of tools and utilities to integrate PlayStation and feature animation studio production processes
- Lead Developer: 14 interactive documentaries, each published in 8 languages, early streaming media on compact disc
 - "Ken Burns style" art history documentaries, each focusing on an artist or period, for Philips Media
 - Wrote the digital tool pipeline each team member's work compiled, producing single file CD-ROMs with integrated interactive sequences, each averaging 7-hour hosted presentations, plus reference libraries.
 - Speaker at International Software Conferences on my ASLAN streaming documentary compiler

Research:

- Beta Engineer for pre-release Apple Macintosh, 1983, at Harvard University, participating in the Apple Professional Developer's Program, a summer long seminar on programming the then un-released Macintosh

- Visualizations Engineer for pioneering mathematics research, at Boston University, '85, working for Robert DeVanney and Benoit Mandelbrot, for their now famous "Beauty of Fractals" book, introducing Fractal mathematics to the world
- Director of Research for Live Internet Broadcasting Service, see above
- As Financial Analyst for Rhythm & Hues Studios, I designed and implemented a large-scale expense forecasting system which consumed all accounting records for 3 years to produce a stochastic forecast of all studio expenses, cross categorized by production, department, role, employee class, and employee experience. Through this work, integrated research and tracking revealed a statistically reliable *institutionalized learning curve* which enabled the studio to provide financial risk assurance for studio investors and creditors. Additionally an Excel tool was developed enabling studio production supervisors to forecast their production needs, as well as integrate the resource needs of other productions into their forecasts.
- Designed and implemented globally scaled, SSL secured API service: automated 3D digital double reconstruction of real people; designed system providing guided end-user photo upload, facial feature recovery, end-user re-touching, 3D reconstruction to 1 of 5 geometries, perspective distortion correction, face deformation utility capable of exaggeration or realism, a facial performance Maya rig with plugin for 3rd party real time face tracking software, assorted tools include accessory deformation tool for wigs, eyeglasses and attachment geometries to auto-fit end-user custom 3D Avatar forms, an auto-fitting library of wigs, hats, and cosplay/fantasy avatar wear, an in-browser auto-lip sync tool and lip sync editor interface, and an in-browser paint-on-the-avatar 3D interface for digital makeup, tattoos, and virtual scaring. Wrote the low-level servers in C/C++, called by a PHP server backend, hosting a Three.js front end with Drupal authentication, custom digital product compiling and delivery.
- Completed OpenCV.org's Computer Vision 1 & 2 courses in both Python and C++, going from classic computer vision through modern deep learning methods, it complemented my prior work as Sr. Software Scientist at CyberExtruder where I was principal engineer of their enterprise facial recognition system. These OpenCV courses include face/object/custom-object detection/tracking/recognition, transfer learning, Notebooks, cloud deployments, YOLO family, DarkNet, etc.
 - Complementing these classes:
 - Learn React Today
 - I took this highly rated online class to familiarize myself with the popular framework. Afterwards, I pair programmed with other React-Three-Fiber developers and introduced them to some of the more advanced animation algorithms I know from my decades of animation production experience.
 - Docker Mastery: with Kubernetes +Swarm from a Docker Captain
 - Bret Fisher's popular Udemy class covering container-based development and deployment pipelines. After completing this course, I began a container based Personalized 3D Avatar creation pipeline, which is currently in development.

Teaching and Mentoring

- As an Undergraduate student, worked for Boston University Graduate Engineer School teaching their entry, intermediate and seminar courses in 3D Computer Graphics
- As a Research Associate at Boston University's 3D Graphics Lab, I routinely instructed and guided various research scientists and their teams in their research visualization and publication visualization needs
- As Supervising Technical Director, I taught the 3D Camera and Set Recovery Production Class as well as the Actor Match Move Recovery Class for Rhythm & Hues Studio's Education Department
- As Financial analyst, I taught the Visual Effects Supervisors how to create Stochastic Projections of Digital Artist, workstations, and render servers for day-to-day tracking of Feature Film Productions and Studio Asset Negotiations
- As Media Pipeline Architect, I spoke at four international software developer conferences on the creation of media production pipelines, various streaming media techniques, the creation and management of a complete 3D game studio
- As High School Student, I taught skiing during the winters for the YMCA