Avi Shah

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Innovative computer graphics student and the CEO of industry-leading visual effects company, Effxcts LLC

Education

University of Florida Aug 2022 – May 2026

Herbert Wertheim College of Engineering *Gainesville, FL*

- **Degree:** Bachelor of Science in Computer Science | Minor in Mathematics | Certificate in Engineering Leadership
- **GPA:** 3.95 / 4.00
- **Coursework:** Data Structures and Algorithms, Software Engineering, Linear Algebra, Differential Equations, Human-Computer Interaction, Natural Language Processing, Physics (Mechanics and E&M)

Experience

Children's Hospital of Philadelphia at Penn May 2024 – Aug 2024

Machine Learning Software Engineer *Philadelphia, PA*

- Constructed an image processing pipeline to extract quantitative data from hundreds of kidney scans.
- Trained and validated ML models, including a CNN-LSTM, to predict surgical necessity in affected patients.
- Integrated models in web-based tools with REST APIs to automate analysis and improve clinical usability.
- Authored a manuscript, now under co-author review for submission. Further details available upon request.

Effxcts LLC Jan 2021 – Present

Founder & CEO *Boston, MA*

- Established Effxcts LLC, a pioneering visual effects company at the intersection of novel technology and sports.
- Led 20+ projects for ESPN, NHL, Red Bull, Bleacher Report, the Dallas Mavericks, and other notable clients.
- Amassed over 50 million views, 25,000 followers, and multiple SportsCenter features on social platforms.
- Expertise in 3D data visualization, modeling, animating, simulating, lighting, rendering, compositing, and VFX.

Interactive Data and Immersive Environments Lab Jan 2024 – Present

3D Computer Graphics Researcher *Gainesville, FL*

- Researching pose estimation, generative diffusion, and Gaussian splatting for automated video creation.
- Conduct VR movement detection studies and contribute to weekly discussions on HCI and IEEE publications.

Projects

Basketball Shot Detection - Deep Learning & Computer Vision Jul 2023 – Aug 2023

- Engineered a real-time basketball shot tracker by training and implementing a YOLOv8 deep learning model.
- Enhanced training and object detection inference over 20x by utilizing CUDA to leverage GPU acceleration.
- Developed data-cleaning algorithms to achieve 95% score detection accuracy and 97% shot attempt accuracy.
- Captured significant professional interest on LinkedIn – 300,000 impressions, 100,000 views, and 100 reposts.

3D Depth Simulation - Computer Vision & Perspective Projection Jul 2023 – Aug 2023

- Crafted an algorithm that adjusts 2D layers based on user eye location to simulate 3D depth on a 2D screen.
- Utilized a webcam and OpenCV for real-time eye tracking, maintaining seamless interaction at 60 fps with CUDA.

Skills

Machine Learning: Tensorflow, PyTorch, OpenCV, Scikit-learn, Pandas, NumPy, CUDA, Matplotlib

Software Engineering: Full-Stack, REST, Agile Scrum, Flask, React JS, Flutter

Computer Graphics: Blender, Unity, Adobe After Effects, Premiere Pro

Programming Languages: Python, C++, C#, Java, MATLAB, JavaScript, HTML, CSS

Tools: GitHub, Visual Studio Code, IntelliJ, PyCharm, CLion, Excel, PowerPoint

Other: Social Media Marketing, Problem-Solving, Communication, Adaptability