Dhaval Parmar, Ph.D.

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Washington D.C.

Education

Clemson University — Clemson, SC
Ph.D., Computer Science — *Aug 2011 – Aug 2017*
- Dissertation: "Evaluating the effects of immersive embodied interaction on cognition in virtual reality"

University of Mumbai — Mumbai, India
Bachelor of Engineering, Computer Engineering — *Jul 2006 – Sep 2010*

Technical Skills

Languages: C#, C, C++, Java, Python
Graphics Applications: Unity, Maya, Blender, Photoshop, Premiere, After Effects, Nuke
Graphics APIs: OpenGL, OpenSceneGraph, SDL, Vuforia
Web Development: Django, Flask, REST, JSP, PHP, HTML/CSS, JavaScript, Wordpress, Bootstrap
Databases: MySQL/MariaDB, SQLite, MS-SQL, Airtable
Developer Tools: Git/SVN, Visual Studio, IntelliJ IDEA, Eclipse, Slack, Trello, Jira, Linux, LaTeX

Major Projects

Smart and Connected Churches | *Virtual Agents, Unity, C#, Java, Android, iOS, WebGL* — 2019 – 2021
- Designed, developed, and deployed Android, iOS, and WebGL Unity apps for health education via embodied virtual agents regarding COVID-19 vaccines and general health.
- NSF funded, conducted in partnership with Black Ministerial Alliance of Greater Boston and Boston Medical Center.

Atrial Fibrillation Health Literacy | *Virtual Agents, Unity, C#, Java, iOS* — 2019 – 2021
- Designed, developed, and deployed a Unity iOS mobile app for atrial fibrillation education and management via embodied virtual agents.
- NIH funded project, conducted in partnership with University of Pittsburgh School of Medicine.
- Implemented health and medication tracking, agent interactivity for communication regarding symptoms, side-effects, and barriers, and patient remote monitoring and health alerts to medical support team.
- Evaluated benefits of a virtual agent interface vs. conventional mobile GUI, published results at ACM CHI 2021.

Real-time audience feedback using Microsoft HoloLens | *AR, Unity, C#, PHP, HTML/CSS* — 2019 – 2020
- Developed a unique AR system to enable real-time audience-presenter feedback. Compared full-field feedback display vs. visual periphery and no feedback display, published results at ACM UbiComp 2020.

Virtual Environment Interactions | *VR, Unity, C#, Microsoft Kinect, HTC Vive, Motion Capture* — 2014 – 2017
- Developed an immersive VR game to teach programming to children via avatar dance choreography.
- Compared embodied VR, non-embodied VR, and desktop-only implementations for educational effectiveness. Published results at IEEE VR 2016.

Technological Education Using Virtual E-School | *VR, Unity, C#, HTC Vive, Head-Tracking* — 2013 – 2016
- Designed and developed precision metrology, industrial safety, and aviation training VR modules using Unity with both unimanual and bimanual interfaces. Created models and animations of 3D objects in Maya and Unity.
- Worked with tracking systems, fishtank VR, large screen stereoscopy, and head-mounted displays.
- Analyzed effectiveness of immersive HMD viewing vs. desktop-based on training psychophysical skills. Published results in the journal Virtual Reality.

Experience

Postdoctoral Research Associate — Sep 2017 – Oct 2021
Relational Agents Group, Khoury College of Computer Sciences, Northeastern University — *Boston, MA*
- Unity lead developer in NSF and NIH funded projects. Trained and managed colleagues in Unity development for research.
- Conducted human-factors research on topics of virtual agents, AR/VR, and machine learning. Mentored graduate students and published 12 peer-reviewed papers.

Graduate Research and Teaching Assistant — Aug 2011 – Aug 2017
Computer Science Dept., School of Computing, Clemson University — *Clemson, SC*

Director of Technology — May 2015 – Apr 2016
Clemson University Graduate Student Government — *Clemson, SC*

Associate Software Engineer — Jul 2010 – Jul 2011
Accenture — *Mumbai, India*