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## Kishore Venkateshan

MS in Computer Science, Intelligent Robotics |  
Looking for full-time opportunities starting June 2019

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Los Angeles, CA

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Graduate student in the field of **artificial intelligence and robotics**, with over 3 years of prior work experience as a **Physics Engineer**. I am a detail driven Software Engineer and Mathematician looking to help teams productionize state-of-the-art technologies in **Machine Perception and Intelligence, Virtual and Augmented Reality, and/or Advanced Character Animation**.

## EDUCATION

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**MS in Computer Science, Intelligent Robotics**, University of Southern California *Jan 2018 - May 2019*  
3.96 / 4.00 GPA | Expected graduation - May 2019

**Master in Digital Media**, Centre for Digital Media, Canada *Aug 2013 - Dec 2014*  
4.05 GPA | Tom Calvert Scholarship - Tuition and Free housing

**BE in Computer Science** from PESIT Bangalore South Campus, India *Jul 2009 - May 2013*  
First Class with Distinction | Published 3 paper in International Conferences and IEEE

## EXPERIENCE

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Graduate Researcher, USC Institute for Creative Technologies Jan 2019 – May 2019

- Worked with **Dr. Ari Shapiro** to build an optimized and extendable pipeline for rapid avatar generation and facial detail creation.
- Experimented and debugged issues related to **point cloud alignment, mesh fitting and blendshape construction** from point clouds generated from Intel RealSense Depth Camera.

Graduate Researcher, USC Institute for Creative Technologies Apr 2018 – June 2018

- Used techniques, such as Active Shape and Active Appearance Models, to parameterize human lip behaviour from 2D video and apply animation and texture to a 3D model.
- Organized intra-institute data collection phase to test pipeline and performance on facial variations.

Software Engineer, Electronic Arts Jan 2015 – Aug 2017

- **Defensive Skill Stick, NHL'18**: Implemented a layered animation architecture on top of proprietary blendspace algorithms to enable seamless transition between skating for offense and defense. Extended the feature to support human-like AI behavior for balanced gameplay.
- **Hitting and Hit Reactions, NHL'17**: Used Separating Axis Theorem for collision prediction and automated muscle tuning of ragdoll based on controlled physics simulation. Optimized for a target FPS of 60 while peaking into physics future using varied level of detail based on confidence of predictions.
- Refactored legacy player interaction system, referenced by over 45% of NHL code. This dropped bug counts by 10%, improved in-game debuggability giving better control over animation and gameplay tuning. It further helped drop unused animation asset counts by 35% and in-turn packaging size of game.

Software Engineer Intern, Electronic Arts Sep 2014 – Dec 2014

- **Physics Based IK, UFC 2**: Key goal was to procedurally animate fighters, accounting for variations in body size during combat without breaking intensity of fighter actions and avoiding mesh penetrations between fighters.
- Performed requirements analysis by collaborating with animators and understanding their pain points to elicit a priority use case and formulate action items for production phase.

## SKILLS

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Programming	C++, Python, C#, MATLAB, SQL
Engines and Libraries	OpenCV, Tensorflow, PostGIS, Unreal Engine, Unity, Point Cloud Library
Mathematics	3D Math, Linear Algebra, Machine Learning and Neural Network, Probability and Statistics, Shape Analysis, Stereo Vision, Bayesian Networks, Causality
Misc	Microsoft Azure, Google Cloud Compute Engine, HTC Vive, SteamVR, Affective Computing, Birdly Motion Platform

## Social Media

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Website	<a href="https://www.kishorevenkateshan.com">https://www.kishorevenkateshan.com</a>
LinkedIn	<a href="https://www.linkedin.com/in/kishorevenkateshan/">https://www.linkedin.com/in/kishorevenkateshan/</a>
Youtube Playlist	<a href="https://www.youtube.com/playlist?list=PLF8w9Rtkn2ITObmo64TJGa3Kg9TqPFafc">https://www.youtube.com/playlist?list=PLF8w9Rtkn2ITObmo64TJGa3Kg9TqPFafc</a>
GitHub	<a href="https://github.com/kv3n">https://github.com/kv3n</a>
Google Scholar	<a href="https://scholar.google.com/citations?user=HiOL-34AAAAJ&amp;hl=en">https://scholar.google.com/citations?user=HiOL-34AAAAJ&amp;hl=en</a>