

# Ganesh Belgur Ramachandra

<https://www.ganeshbelgur.com/>

Email : [ganeshbelgur@gmail.com](mailto:ganeshbelgur@gmail.com)

Github : [github.com/ganeshbelgur](https://github.com/ganeshbelgur)

## EXPERIENCE

---

- **Software Developer** Hyderabad, India  
*Ramp Group, People Tech IT Consultancy Private Limited*  
*[https://www.rampgroup.com/casestudy\\_generalmotors.html](https://www.rampgroup.com/casestudy_generalmotors.html)* *Oct 2020 - Present*
  - Implementing an OpenGL ES 3.0 based renderer targeting Blackberry's QNX RTOS for General Motor's in-vehicular cluster and infotainment systems
- **Software Developer - R&D** Bangalore, India  
*MPC Film, Technicolor India Private Limited* *Feb 2017 - Jan 2020*  
*<https://www.technicolor.com/create/vfx>*
  - Refactored Furtivity as described in "Layering changes in a procedural grooming pipeline" (DigiPro 2018)
  - Improved preview performance of scenes with high density vegetation by about 40% with frustum culling
  - Implemented hero grass wrapping logic based on "Wires: a geometric deformation technique" (Siggraph 1998)
  - Refactored the hair generation tool for the new Pixar's *Universal Scene Description* based pipeline at Mill Film
- **Junior Developer - Pipeline** Bangalore, India  
*Xentrix Studios* *Jul 2016 - Feb 2017*  
*<http://www.xentrixstudios.com/>*
  - Developed and optimized in-house C++ Maya plug-in for handling non-manifold geometry
  - Implemented improvements to asset checking and general quality assurance systems

## EDUCATION

---

- **Amrita School of Engineering, Amrita Vishwa Vidyapeetham University** Bangalore, India  
*Bachelor of Technology in Computer Science and Engineering - 8.13/10.00 (Distinction)* *Aug. 2012 - Aug. 2016*

## PUBLICATIONS

---

- **Learning dissimilarity mechanisms for Agglomerative Clustering to generate BVHs for ray tracing:** An approach involving the use of neural networks to produce BVHs by extending on the work by Pantaleoni and Luebke, 2010. (publication expected soon)
- **Grammar Error Detection Tool for Medical Transcription Using Stop Words Parts-of-Speech Tags Ngram Based Model:** A novel approach in NLP for detecting grammatical errors in a text. A technical paper was presented on this approach at the Jawaharlal Nehru Technological University, Hyderabad and published by Springer.

## PROJECTS - SOURCECODE AVAILABLE ON GITHUB

---

- **Comet:** A unidirectional path tracer implemented based on Peter Shirley's minibook series, PBRT book and various courses by Dr. Károly Zsolnai, Dr. Thomas Auzinger and Dr. Ravi Ramamoorthi.
- **Rosary:** A catalogue of modern OpenGL scenes demonstrating perspective projection, free-flying camera system, texture sampling, Phong lighting and shading models, shadow mapping and cube mapping.
- **DreamWorks FX Challenge:** A simulation of sparks flying in a projectile trajectory that collides with obstacles and splinters.
- **DreamWorks Steer Quest:** A flocking simulation of a herd of sheep avoiding static and dynamic obstacles for a hackathon by DreamWorks Dedicated Unit, India (SIGGRAPH 1987, Craig W. Reynolds)

## PROGRAMMING SKILLS

---

- **Programming Languages:** C++, Python, Lua, Javascript;
- **Technologies, Frameworks and APIs:** OpenGL, WebGL, Pixar Universal Scene Description, Unity, Maya, Katana, Blender;

## OTHER DETAILS

---

- **Film Credits:** Received multiple on-screen credits in high budget Hollywood feature films for software development: The Darkest Minds (2018), The Lion King (2019), Cats (2019) and Sonic the Hedgehog (2020). (Link: <https://www.imdb.com/name/nm10166225/>)
- **Volunteering:** Served as a student volunteer at the ACM SIGGRAPH Asia 2017 (Bangkok), 2018 (Tokyo) and 2019 (Brisbane); Volunteer/ Mentor at GAFX 2018, Bangalore; Organised various algorithmic hackathons at Amrita;
- **Languages:** English (Professional working proficiency); Kannada (Mother tongue);