

Ganesh Belgur Ramachandra

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EXPERIENCE

- **Software Developer** Hyderabad, India
Ramp Group, People Tech IT Consultancy Private Limited Oct 2020 - Present
https://www.rampgroup.com/casestudy_generalmotors.html
 - 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 an in-house tool that uses Catmull-Rom splines for creating photorealistic hair, fur and feathers
 - Improved preview performance of scenes with high density vegetation by about 40% with frustum culling
 - Refactored the hair generation tool for the new Pixar's *Universal Scene Description* based pipeline at Mill Film
- **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

PUBLICATIONS

- **Smart Agglomerative Clustering based Bounding Volume Hierarchies:** An approach involving the use of a simple CNN based image classifier to produce bounding volume hierarchies with agglomerative clustering for ray tracing scenes. (Publication expected in December 2020)
- **Grammar Error Detection Tool:** 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 which was published by Springer under the title, 'Proceedings of ICCII 2017, Springer - Advances in Intelligent Systems and Computing'.

PROJECTS

- **Comet:** A unidirectional path tracer implemented based on Peter Shirley's minibook series and parts of the PBRT book.
- **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 in a scene to reach a designated destination. The implementation is based on a paper by Craig W. Reynolds, 1987.

PROGRAMMING SKILLS

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

EDUCATION

- **Amrita School of Engineering** Bangalore, India
Bachelor of Technology in Computer Science and Engineering with Distinction Aug. 2012 – Aug. 2016

OTHER DETAILS

- **Film Credits:** Received multiple on-screen credits in high budget hollywood movies 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 hackathons at college
- **Languages:** English (Professional working proficiency); Kannada (Mother tongue);