

SIDDHANT PRAKASH

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EDUCATION

- Doctor of Philosophy (Ph.D.) in Computer Science** November 2019 - Present
INRIA, Sophia-Antipolis & Université Côte D'Azur, Nice, France
Advisor: **Dr. George Drettakis**
- Master of Science (M.S.) in Computer Science** August 2016 - December 2018
Arizona State University, Tempe, Arizona, USA
CGPA: 4.00/4.00
Master's Opportunity for Research in Engineering (MORE) Scholar, Spring 2018.
- Bachelor of Technology (B.Tech.(Hons.)) in Computer Science and Engineering** August 2012 - May 2016
International Institute of Information Technology, Hyderabad, India
Dean's Merit List, Spring 2015

SKILLS

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| Libraries & Software | OpenGL, OpenCV, Cmake, Colmap, Unity 3D, Vuforia, PyTorch, Caffe2, Numpy, Scikit-learn |
| Programming Languages | C/C++/C#, Matlab, Python, GLSL |
| OS & Development Platforms | Windows, Ubuntu, iOS, Android |
| Version Control & IDE | GIT, SVN, Vim, Visual Studio |
| Media Design/Editing Tools | Adobe {Photoshop, Illustrator, Lightroom, After Effects}, GIMP, ImageMagick |

PUBLICATIONS & PATENTS

- Rodriguez S., **Prakash S.**, Hedman P., and Drettakis G. “*Image-Based Rendering of Cars using Semantic Labels and Approximate Reflection Flow.*” Proceedings of the ACM on Computer Graphics and Interactive Techniques, Volume 3, Number 1 - May 2020
- **Prakash S.**, Bahremand A., Nguyen L. D., and LiKamWa R., “*GLEAM: An Illumination Estimation Framework for Real-time Photorealistic Augmented Reality on Mobile Devices.*” Proceedings of the 17th Annual International Conference on Mobile Systems, Applications, and Services (MobiSys '19). ACM, 2019. Oral and demo presentation. (**Best Demo Runner-up Award**)
- **Prakash S.**, Nathan P. A., Nguyen L., Bahremand A., LiKamWa R. “Collaborative Illumination Estimation for Mixed-reality Devices, U.S. Patent Application No. 62738521, September 28, 2018.(non-provisional patent application filed)
- **Prakash S.** and LiKamWa R., “*Real-time Illumination Estimation Using Collaborative Photorealistic Rendering for Mobile Augmented Reality.*” Proceedings of the 19th International Workshop on Mobile Computing Systems & Applications (HotMobile '18). ACM, 2018. Poster presentation. (**Best Poster Award**)

RESEARCH EXPERIENCE

- INRIA Centre de Sophia Antipolis - Méditerranée, Sophia Antipolis Cedex, France** Feb 2019 - Oct 2019
Research Engineer at GraphDeco Team under Prof. George Drettakis
- Refactoring a software framework used for image-based rendering algorithms with a C++ and OpenGL backend
 - Porting implementation of state-of-the-art IBR algorithms: *Buehler et al. 2001, Chaurasia et al. 2013, Hedman et al. 2018, etc.*
- Max-Planck Institute for Intelligent Systems, Tuebingen, Germany** Jun 2017 - Aug 2017
Research & Development Intern at Perceiving Systems Department under Prof. Michael Black
- Explored deep learning libraries (Caffe2 & Torch) which support GPU acceleration on mobile and embedded environment
 - Developed an Android application for Dense Optical Flow Estimation on mobile phones using Caffe2 and optimization libraries

TECHNICAL PROJECTS

- Real-time Localization, Detection & Classification of Objects** January 2017 - April 2017
Perception in Robotics Course Project Arizona State University
- Designed a pipeline to localize, detect and classify objects in real time using DCNNs and ROS compatible modules on various systems
 - Using the YOLO and YOLO-tiny framework, compared performance of models for autonomous driving in a simulated environment
- 3D Object Registration and Multi-Dimensional Scaling** October 2016 - November 2016
Advanced Computer Graphics Course Project Arizona State University
- Implemented the Iterative Closest Point algorithm for shape registration and performed error analysis on various types of 3D object
 - Studied multi-dimensional scaling by implementing the LS-MDS SMACOF algorithm to represent 3D objects in lower dimensions