Muhammad Omer Saeed

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Education

- **University of Bonn** — Bonn, Germany
  M.Sc. Computer Science (Graduation: Sep 2016) — *2014 - present*
  - Specialization in Computer graphics and Computer vision
  - Additional courses from Machine learning, Data mining and Digital signal processing
- **Jacobs University Bremen** — Bremen, Germany
  B.Sc. Electrical Engineering and Computer Science — *2011 - 2014*

Research and Work Experience

- **University of Bonn** — Bonn, Germany
  Graduate Teaching Assistant for Computer Vision — *October 2015 - present*
  - Working with Prof. Dr. Jürgen Gall, the head of Computer Vision department at Uni Bonn.
  - Responsible for scheduling and maintaining regular office hours to help students with course material, grading weekly assignments and keeping the professor updated with students' performance.
- **Serena Software** — Cologne, Germany
  Software Process App Designer — *January 2015 - present*
  - Contributed software engineering expertise in the development of a customer relationship management (CRM) software from requirements definition through robust implementation.
  - Successfully collaborated with a 3 person team to complete the implementation before the set deadline.
  - Technologies used were Java, VBScript and JavaScript.
- **Jacobs University Bremen** — Bremen, Germany
  Student Research Assistant — *June 2014 - September 2014*
  - Worked with Prof. Dr. Andreas Birk, the head of Robotics department at Jacobs University Bremen.
  - Modernized the user interface, fixed logical bugs and wrote technical documentation for a robot generated map scoring tool.
  - Deployed the tool on Linux with above threshold software quality.
  - Technologies used were Qt with C++ and OGRE framework.
- **Jacobs University Bremen** — Bremen, Germany
  Teaching Assistant for Programming in Java — *September 2013 - January 2014*
  - Responsible for giving weekly tutorials to students and grading assignments and exams.
- **Jacobs University Bremen** — Bremen, Germany
  Bachelor's Thesis in Computer Graphics — *September 2013 - June 2014*
  - Successfully designed a collision detection algorithm to provide a real time chewing simulation of a human teeth model with a gummy bear substrate.
  - Analyzed a detailed comparison of the designed method with the other state of the art collision detection methods. *[source code] [document]*
- **IAV Automotive Engineering** — Chemnitz, Germany
  Software Engineering Intern — *June 2013 - September 2013*
  - Responsible for the development and testing of an internal tool at IAV used to evaluate simulation results.
  - Upon completion of internship made the tool robust enough for its initial launch inside the company.
  - Technologies used were Java swing and XML.

Public Projects

- **Saliency Maps** **C++, OpenCV**
  Selective attention in images to reduce processing times in fields like robotics *2015*
  - Winner of a competition held at University of Bonn computer vision department for the best implementation of a saliency system.
  - Coordinated and collaborated in a conflict free environment with another team member to deliver a robust and quality final product. *[source code] [results]*
- **Procedural Modeling of Buildings** **Qt, C++, OpenGL**
  Implementation of the paper 'Procedural modeling of buildings Muller et al' *2015*
  - Implementation allows modeling rich outdoor scenes using a compact input grammar.
  - The models can be interactively viewed and exported to hard disk for later use. *[source code]*
- **JEditor** **Java Swing**
  A lightweight text editor with many modern functions *2014*
  - Developed an advanced desktop text editor which supports spell checking, word completion, syntax highlighting, file recovery and customizable UI.
  - Regularly updated with bug fixes and new features. Packages are available for Linux and Windows. *[source code]*
- **PLY Visualizer** **Java, OpenGL**
  Visualization of the Stanford PLY file format *2014*
  - Developed software for rendering and interactive viewing of the ply format files. Packages are available for Linux. *[source code]*
- **Alarm Clock** **Java Swing**
  A cross platform alarm clock *2014*
  - Developed an alarm clock for desktop that supports alert messages, widgets and priority alerts. Packages are available for Linux. *[source code]*

For a complete list of my projects, please visit my github profile.

Skills

- **Dev Advance:** C/C++, Java, MATLAB, Qt, OpenCV, OpenGL
- **Dev Intermediate:** CUDA, ProLog, OGRE framework, JavaScript, SQL, PHP
- **Tools:** Visual Studio, Eclipse, LT Spice, Debian, R Software, MeshLab
- **Languages:** English (native), German (intermediate), Urdu (native)

Community Involvement

- **Student advisor:** Responsible for mentoring a group of freshman students at their initial days at Jacobs University and helping them integrate in the university environment.
- **Volunteer:** Member of the organizing team for the North Western european regional programming contest (NWERC) held at Jacobs University. Worked effectively with the team for the smooth running of the event.

Interests

- Football, Cricket, Travelling, Gaming and Fitness