

Muhammad Omer Saeed

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<https://github.com/musaeed> 🐙

Education

- **University of Bonn** Bonn, Germany
M.Sc. Computer Science 2014 - 2016
 - 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

- **Microsoft** Copenhagen, Denmark
Senior Software Engineer (Last title change September 2022) December 2016 - present
 - Working in the Dynamics 365 Business Central group
 - Built a custom hotfix delivery system in Azure Dev-ops responsible for providing customers with security as well as quality updates globally while following safe deployment practices
 - Built custom pipelines for azure resource management, consolidation and periodic cleanups which helped save ~10% compute operational costs
 - Responsible for building infrastructure around deployments, testing and operations of the product
 - Technologies used in day to day work: C#, Powershell, Azure SDK, ASP.Net core
- **University of Bonn** Bonn, Germany
Master Thesis - 3D human pose estimation using deep networks June 2016 - November 2016
 - Achieved state of the art results in 3D human pose estimation using deep networks
 - Did several experiments by training convolutional neural networks using different techniques to predict the 3D human poses directly from a single RGB image *[document]*
- **Google Summer of Code** Bonn, Germany
Open source software contributor June 2016 - August 2016
 - Worked with the PRISM model checker community
 - Improved the graph plotting abilities of the prism tool by adding new 2D and 3D plots support
 - Improved the GUI and general stability of the prism tool *[project page]*
- **University of Bonn** Bonn, Germany
Graduate Teaching Assistant for Computer Vision October 2015 - February 2016
 - Worked 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 - June 2016
 - 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 C++, Java swing and XML

Public Projects

- **Business Manager** ReactJS, ASP.Net core
A complete business management solution 2023
 - Features include inventory management, invoicing, register management, reporting and partial HR management
 - Supports multiple users with different permission levels
 - Built with security and scalability in mind *[source code]*
- **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
2014
A lightweight text editor with many modern functions
 - 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 Window
[\[source code\]](#)
- **PLY Visualizer** Java, OpenGL
2014
Visualization of the Stanford PLY file format
 - Developed software for rendering and interactive viewing of the ply format files. Packages are available for Linux [\[source code\]](#)
- **Alarm Clock** Java Swing
2014
A cross platform alarm clock
 - 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/C++, Java, MATLAB, Qt, OpenCV, OpenGL, PowerShell, Spring framework
- **Dev Intermediate:** ProLog, JavaScript, SQL, Ruby on rails
- **Languages:** English (native), Urdu (native), Danish (intermediate), German (basic)

Interests

- Football, Travelling, Gaming and Fitness