Muhammad Omer Saeed

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Engineering leader with 9+ years at Microsoft designing and scaling mission-critical infrastructure for global SaaS platforms. Combines deep infrastructure expertise with security architecture and emerging AI capabilities to drive organizational impact.

Professional Experience

- **Microsoft** — Copenhagen, Denmark
  Senior Software Engineer (Last title change September 2022) — December 2016 - Present
  - Architected and Scaled the global deployment and hotfix infrastructure for a multi-region SaaS product, achieving zero-touch secure updates across 30+ Azure regions and reducing hotfix release latency to under 10 minutes
  - Spearheaded the design of a distributed, auto-scaling CI/CD and model-based build system, yielding a 3x increase in build throughput and reclaiming 40% of developer engineering time across the organization
  - Orchestrated the BCDR and capacity strategy for massive-scale compute and SQL workloads, slashing performance incidents by 50% while optimizing cloud architecture to reduce annual operational spend by 10%
  - Appointed team Security Champ for Microsoft's Secure Future Initiative (SFI); overhauled service-wide identity standards by implementing managed credentials and strict tenant isolation to achieve a zero-trust architecture, and delivered security guidance at external partner conferences to elevate industry-wide zero-trust adoption.
  - Pioneered a proprietary AI evaluation framework to validate ERP-embedded generative features, increasing model precision by 20–30% and establishing the data-driven benchmarks for global release readiness
  - Standardized livesite diagnostic and mitigation tooling now adopted as the organizational gold standard, accelerating root-cause analysis and reducing customer-impacting incident resolution time (MTTR) by 35%

- **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]*

- **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

- **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

Academic & Research Experience

- **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]*

- **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

- **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]*

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
  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]*

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

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

Skills

- **Proficient:** C#, PowerShell, Azure SDK, ASP.NET Core, ReactJS, C/C++, Java

- **Experienced:** OpenCV, MATLAB, Spring Framework, Qt, OpenGL

- **Cloud & DevOps:** Azure DevOps, Azure Resource Management, CI/CD Pipelines

- **AI/ML:** Model evaluation frameworks, generative AI integration

- **Languages:** English (fluent), Urdu (native), Danish (advanced), German (basic)

For a complete list of my skills, please visit my LinkedIn profile.