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| **Christian Robles** | |
| +1(909)451-1716 ⋅ roblesch@usc.edu  <https://blog.roblesch.page> | |
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| **EDUCATION** | |
| **University of Southern California** | Los Angeles, CA |
| Viterbi School of Engineering | May 2023 |
| Master of Science, Computer Science | **GPA: 3.85** |
| Multimedia and Creative Technologies |  |
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| * **Multimedia Systems Design,** End-to-end multimedia systems – content creation, compression, distribution. * **Computer Graphics,** OpenGL, 2D and 3D transformations, Bezier Splines, rendering including ray tracing, shading and lighting. * **3-D Graphics and Rendering,** Transformations, shading, lighting, rasterization and texturing for scenes of 3D models. * **Analysis of Algorithms,** Fundamental techniques for efficient algorithm construction. | |
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| **Arizona State University** | August 2013 – May 2017 |
| Ira A. Fulton Schools of Engineering |  |
| Bachelor of Science, Computer Science |  |
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| **TECHNICAL SKILLS** | |
| **Languages:** C++, Java, Python, R, Go | |
| **Tools/Frameworks/Patterns:** OpenGL, Qt6, Blender, Git, Containers, CI/CD, Pipelines, Infrastructure-as-Code, Pandas, Tidyverse | |
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| **WORK EXPERIENCE** | |
| **Software Engineer II** | July 2017 – July 2021 |
| **Microsoft,** Cambridge, MA | |
| * Shipped infrastructure-as-code, CI/CD pipelines, build systems, and test infrastructure targeting the Azure Cloud. * Worked with top partners in Financial Services to transition critical build systems and infrastructure to Azure. * Prototyped new products and extended data platforms with Azure services alongside partners in Transportation and Energy. * Collaborated with Microsoft and Academic Data Scientists to design and implement feature engineering pipelines in Healthcare. | |
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| **Summer Technology Analyst** | Summer 2016 |
| **Goldman Sachs,** New York, NY | |
| * Worked with Cloud Infrastructure team to develop data pipelines and dashboards for private cloud-based endpoints. * Enhanced visibility on patch and security compliance for over 85K cloud-based endpoints with Elasticsearch and Kibana. | |
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| **PROJECTS** | |
| **MaterialX OSL Shader Generator,** 03/2022   * Console wrapper around *MaterialX* to generate OSL shader code from \*.mtlx files. Demonstrated generated OSL shaders with Cycles in Blender and shared implementation as a blog post. | |
| **Multiple Importance Sampling,** 12/2021 – 02/2022 | |
| * Read Eric Veach’s 1997 thesis *Robust Monte Carlo Methods for Light Transport Simulation* and extended Peter Shirley’s *Ray Tracing: The Rest Of Your Life* with Multiple Importance Sampling using the Balance Heuristic. Shared implementation and discussion of techniques as a blog post. | |
| **HyperVideo Media Player,** 10/2021 – 12/2021 | |
| * End of term project for Multimedia Systems Engineering. Qt6 Applications for authoring and viewing HyperVideo files that allow users to create and modify links between videos with a custom video format. | |
| **Multimedia Style Transfer,** 05/2020 – 07/2020 | |
| * Projects exploring style transfer of textures on 3D scans and viability of a real-time style transfer plugin for TouchDesigner. Presented internally at Microsoft and shared as a blog post. | |
| **Cystic Fibrosis Patient Clustering & Device Classifier Feature Pipelines,** 09/2018 – 08/2019 | |
| * In partnership with Microsoft Data Scientists and Clinical Statisticians. Designed and implemented a data featurization pipeline for over 12 TB of medical signals in a black-box research environment with strict constraints on performance. | |
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| **INTERESTS AND HOBBIES** | |
| **Volunteering and Education,** Taught AP Computer Science A to High Schoolers via the TEALS Program with Microsoft.  **Physically Based Rendering,** Read academic literature and create side projects to share on my personal blog.  **Hiking and Rock Climbing,** Passionate about indoor and outdoor bouldering and sport climbing. | |