Iman Sadeghi, Ph.D.

Principal Software & Technology Consultant

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As an award-winning computer scientist and software engineer with a doctorate and master's degree in Computer Science from the University of California, San Diego, my professional journey spans prestigious organizations such as Google, Walt Disney Animation Studios, and Lucasfilm. These valuable experiences have enriched my expertise in a broad range of computer science and software engineering disciplines.

At Quandary Peak Research, I specialize in delivering deposition/trial testimony, declarations, and reports in the fields of computer graphics, 3D rendering, 3D animation, 3D geometry processing, software engineering, system architecture, algorithms, and data structures, as well as source code analysis for software litigation. My focus revolves around patent infringement, trade secret misappropriation, intellectual property violation, copyright piracy, and breach-of-contract matters. Leveraging my expertise, I analyze complex software systems, evaluate software production quality, and elucidate software functionalities. This crucial analysis empowers legal professionals with indispensable insights into the technical aspects of their cases.

Education

Ph.D. in Computer Science
University of California, San Diego | La Jolla, CA | 2008–2011
Ph.D. Dissertation: Controlling the Appearance of Specular Microstructures

M.Sc. in Computer Science
University of California, San Diego | La Jolla, CA | 2006–2008
M.Sc. Thesis: Photorealistic Rendering of Human Hair Fibers

B.Sc. in Computer Engineering
Sharif University of Technology | Tehran, Iran | 2002–2006
B.Sc. Thesis: Optimal Point Removal in Closed-2PM Labeling

Filed Patents

- **Google** | 2014
  - **Event Grouping Using Time Zones** · GP-21579-00-US · US 2016/0027037 A1
  - **Cross-Campaign Event Attribution** · GP-21577-00-PR
  - **Late Conversion Event Attribution** · GP-21580-00-US
  - **Event Attribution Using Backfill Operation** · GP-21581-00-US
  - **Event Attribution and Frequency Grouping** · GP-21578-00-US

- **Walt Disney Animation Studios** | 2010
  - **System and Method for Artist Friendly Controls for Hair Shading** · US 8,674,988 B2

Select Employment

Principal Software & Technology Consultant
Quandary Peak Research | Los Angeles, CA | June 2023–Present

- Providing deposition/trial testimony, declarations, and expert reports in the fields of computer graphics, 3D rendering, 3D animation, 3D geometry processing, software engineering, system architecture, algorithms, and data structures.
- Conducting in-depth source code analysis in software litigation involving patent infringement, trade secret misappropriation, intellectual property violation, copyright piracy, and breach-of-contract matters.
- Empowering legal professionals with indispensable insights into the technical aspects of their cases.

Researcher / Software Engineer
Google | Santa Monica, CA & Venice, CA | 2011–2017

- Gained experience with robust software system architectures, reliable scalable distributed systems, and deep convolutional neural networks.
- **Machine Learning [2015–2017]**
  - Worked on optimizing Artificial Intelligence models and Deep Convolutional Neural Networks used in Google's Face Tracking and Face Recognition.
- **Advertisement [2013–2015]**
  - Worked on reporting, targeting, and optimizing Reach and Frequency metrics for brand advertisers with a focus on views (CPM) versus clicks (CPC) in Google AdSense.
- **Image Processing [2011–2013]**
  - Worked on image encoding, editing, and compression as well as auto-enhancement features in Google Photos.

Research & Development Engineer
ILM: Industrial Light & Magic | San Francisco, CA | 2010

- Worked and conducted research in Lucasfilm's Visual Effects R&D Department on designing and implementing a volumetric approximation for 3D geometry occlusion under image-based lighting.

Research & Development Engineer / Consultant
Walt Disney Animation Studios, | Burbank, CA | 2008 & 2009

- Worked and conducted research in the Look Development Department on designing, implementing, publishing, and patenting "An Artist Friendly Hair Shading System" for the production of the Disney movie "Tangled."

Graduate Researcher & Developer
CISA3: Center of Interdisciplinary Science for Art, Architecture and Archaeology | La Jolla, CA | 2007–2008

- Worked and conducted research in the Visualization Group on 3D rendering and real-time visualization.

Computer Graphics Engineer
Calit2: California Institute for Telecommunications and Information Technology | La Jolla, CA | 2007

- Worked and conducted research in the Immersive Visualization Lab on 3D rendering and real-time visualization.

Graduate Research Associate

Jacobs School of Engineering, University of California San Diego | La Jolla, CA | 2007–2011

- Conducted research on computer graphics, photorealistic rendering, and advanced appearance modeling.

Undergraduate Research Associate

IPM: Institute for Studies in Theoretical Physics and Mathematics | Tehran, Iran | 2005–2006

- Conducted research on designing optimal algorithms for map labeling.

Vice President of Engineering

Pinscreen | Santa Monica, CA | 2017

- Worked on the development and rendering of user-generated and personalized 3D virtual avatars.

Litigation Consulting

1. **Universal Music Group Recordings, Inc. v. Frontier Communications Corp.** | Aug 2024–Present
   Jurisdiction: US District Court, Southern District of New York
   Case Number: 1:21-cv-05050|20-22476
   Counsel: Day Pitney, LLP
   Nature of Suit: Copyright

2. **D4D Technologies, LLC v. Medit Corporation** | Apr 2024–Present
   Jurisdiction: US District Court for the Western District of Texas
   Case Number: 6:21-cv-01176
   Counsel: Scheef & Stone, LLP
   Nature of Suit: Patent

3. **InQuisient, Inc. v. ServiceNow, Inc.** | Mar 2024–Present
   Jurisdiction: US District Court for the District of Delaware
   Case Number: 1:22-cv-00900
   Counsel: Fish & Richardson P.C.
   Nature of Suit: Patent

4. **Artec Europe S.A.R.L. v. Shenzhen Creality 3D Technology Co., Ltd., et al.** | Feb 2024–Present
   Jurisdiction: U.S. District Court for the Eastern District of New York
   Case Number: 1:22-cv-01676-OEM-VMS
   Counsel: Munck Wilson Mandala, LLP
   Nature of Suit: Patent

5. **Electronic Devices Including Smartphones, Computers, Tablet Computers, and Components Thereof**
   Dec 2023–Present
   Jurisdiction: International Trade Commission (ITC)
   Case Number: 337-TA-1373
   Counsel: Alston & Bird, LLP
   Nature of Suit: Patent

6. **3D Systems, Inc. v. <u>Ben Wynne, et al.</u>** | Sept 2023–Present
   Jurisdiction: United States District Court Southern District of California
   Case Number: 3:21-cv-01141-LAB-DEB
   Counsel: Smith, Gambrell & Russell, LLP
   Nature of Suit: Trade Secrets

7. **<u>Avelardo Rivera and Yasmine Romero</u> v. Amazon Web Services, Inc.** | July 2023–Present
   Jurisdiction: Western District of Washington
   Case Number: 2:22-cv-00269-JHC
   Counsel: Edelson P.C.
   Nature of Suit: Class Action

Intellectual Property Consulting

1. **Sullivan & Cromwell, LLP** | May 2024–Present
   Nature of Consultation: Patent Analysis
   Technology: Load Balancing, Virtualization, Cloud and Big Data Infrastructure

2. **Security First Innovations, LLC** | Sept 2023–Present
   Nature of Consultation: Patent Analysis
   Technology: Security, Encryption, Storage, Cloud and Big Data Infrastructure

Peer-Reviewed Publications

- Iman Sadeghi, Oleg Bisker, Joachim De Deken, and Henrik Wann Jensen | 2013
  A Practical Microcylinder Appearance Model for Cloth Rendering
  ACM Transactions on Graphics 32 (2), SIGGRAPH 2013.

- Nima Sadeghi, Iman Sadeghi, and Shahriar Mirabbasi | 2013
  Analysis and Design of Monolithic Resistors with Desired Temperature Coefficient
  IET Circuits, Devices & Systems.

- Iman Sadeghi, Adolfo Munoz, Philip Laven, Wojciech Jarosz, Francisco Seron, Diego Gutierrez, and Henrik Wann Jensen | 2012
  Physically-Based Simulation of Rainbows
  ACM Transactions on Graphics 31 (1), SIGGRAPH 2012.

- Iman Sadeghi | 2011
  Controlling the Appearance of Specular Microstructures
  Ph.D. Dissertation, Jacobs School of Engineering, University of California San Diego.

- Wojciech Jarosz, Derek Nowrouzezahrai, Iman Sadeghi, Henrik Wann Jensen | 2011
  A Comprehensive Theory of Volumetric Radiance Estimation using Points & Beams
  ACM Transactions on Graphics 30 (1), SIGGRAPH 2011.

- Iman Sadeghi, Heather Pritchett, Henrik Wann Jensen, Rasmus Tamstorf | 2010
  An Artist Friendly Hair Shading System
  ACM Transactions on Graphics 29 (4), SIGGRAPH 2010.

- Iman Sadeghi, Rasmus Tamstorf | 2010
  Efficient Implementation of Dual Scattering Model in RenderMan
  Disney Technical Reports.

- Iman Sadeghi, Bin Chen, Henrik Wann Jensen | 2009
  Coherent Path Tracing
  Journal of Graphics, GPU, & Game Tools 14 (2).

- Iman Sadeghi | 2008
  Photorealistic Rendering of Human Hair Fibers
  M.Sc. Thesis, Jacobs School of Engineering, University of California San Diego.

- Farshad Rostamabadi, Iman Sadeghi, Mohammad Ghodsi, Ramtin Khosravi | 2008
  Optimal Point Removal in Closed-2PM Labeling
  Information Processing Letters, Elsevier, 105 (3).

Technical Posters

- Iman Sadeghi, Henrik Wann Jensen | 2008
  A Physically Based Anisotropic Iridescence Model for Rendering Morpho Butterflies
  University of California San Diego Research EXPO.

Awards & Honors

- **Erdös-Bacon Number 6** | 2010
  Erdös Number 4 and Bacon Number 2

- **Walt Disney Animation Studios Fellowship** | 2009
- Awarded for hair rendering research on the Disney movie Tangled | Burbank, CA

- **Best Social Networking App** | 2009
  Awarded during the Qualcomm Innovation Challenge | La Jolla, CA

- **Featured on Magazine Front Cover** | 2009
  Optics and Photonics News Magazine

- **Chancellors Interdisciplinary Collaboratories Fellowship** | 2008
  Awarded from CISA3, the Center of Interdisciplinary Science for Art, Architecture & Archaeology | La Jolla, CA

- **Grand Prize Award** | 2007
  Winner of the University of California San Diego's Rendering Competition 2007 | La Jolla, CA

- **Best Graphics Design** | 2007
  Winner of The Open Protein Structure Network logo design contest

- **CalRA Fellowship** | 2006–2007
  Awarded from Jacobs School of Engineering, UC San Diego | La Jolla, CA

- **Ranked 1st in Cumulative GPA** | 2002–2006
  Class of 2002, Computer Engineering Department, Sharif University of Technology | Iran

- **Silver Medal Award** | 2002
  National Olympiad of Informatics | Iran

- **Admitted to The National Organization for Development of Exceptional Talents |** 1995 & 1998
  Less than the top 1% of students nationwide are admitted to the program | Iran

Movie Credits

- **Tangled** | 2010
  Look Development | Hair Rendering Development
  Walt Disney Animation Studios

Invited Talks

- ***In Pursuit of Pixels***
  University of California San Diego, Computer Science & Engineering Lecture Series | 2017

- ***Appearance Modeling for Digital Humans - In Pursuit of Pixels***
  University of Southern California, Graduate Course CSCI 621: Digital Geometry Processing | 2017

- ***Hair Rendering from Theory to Practice***
  University of California San Diego, Graduate Course CSE 272: Advanced Appearance Modeling | 2010

- ***State of the Art in Hair Rendering***
  Walt Disney Animation Studios, Look Development Department | 2008

- ***Photorealistic Rendering of Morpho Butterflies***
  Arizona State University, Conference "Iridescence: More than Meets the Eye" | 2008

Invited Reviewer / Judge

- **Distinguished Judge** | University of California San Diego Research Expo 2024
- **Reviewer** | Eurographics Conference 2024
- **Reviewer** | ACM SIGGRAPH Conference 2022
- **VIP Judge** | University of California San Diego Research Expo 2017
- **Reviewer** | ACM SIGGRAPH Asia Conference 2011
- **Reviewer** | Computers & Graphics Journal, Elsevier 2010
- **Reviewer** | ACM SIGGRAPH Asia Conference 2010
- **Judge** | University of California San Diego Research Expo 2013
- **Judge** | University of California San Diego Rendering Competition 2010
- **Reviewer** | ACM Transactions on Graphics Conference 2009
- **Judge** | University of California San Diego Rendering Competition 2008

Teaching Experience

- **University of California, San Diego** | La Jolla, CA | 2007–2011

  - **Teaching Assistant** | CSE 20: Discrete Mathematics | Spring 2011
  - **Senior Teaching Assistant** | CSE 21: Mathematics for Algorithms and Systems | Winter 2011
  - **Senior Teaching Assistant** | CSE 8A: Introduction to Computer Science: Java | Fall 2010
  - **Teaching Assistant** | CSE 167: Computer Graphics | Fall 2010
  - **Teaching Assistant** | CSE 20: Discrete Mathematics | Spring 2010

- ○ **Senior Teaching Assistant** | CSE 101: Design & Analysis of Algorithms | Winter 2010
  - ○ **Senior Teaching Assistant** | CSE 100: Advanced Data Structures | Fall 2009
  - ○ **Senior Teaching Assistant** | CSE 167: Computer Graphics | Fall 2007

- **National Ministry of Education** | Tehran, Iran | 2005

  - ○ **Teaching Discrete Mathematics** for the Olympiad of Informatics to high school students.

- **Young Scholars Club** | Tehran, Iran | 2004

  - ○ **Teaching Combinatorics and Informatics** at Farzanegan High School

- **Sharif University of Technology** | Tehran, Iran I 2003–2006

  - ○ **Senior Teaching Assistant** | CE254: Design & Analysis of Algorithms | Fall 2006
  - ○ **Senior Teaching Assistant** | CE364: Programming Languages | Fall 2005
  - ○ **Teaching Assistant** | CE443: Computer Networks | Spring 2005
  - ○ **Teaching Assistant** | CE417: Artificial Intelligence | Fall 2004
  - ○ **Senior Teaching Assistant** | CE115: Discrete Mathematics | Fall 2003

Technical Coursework

- **Graduate Level** | University of California, San Diego | 2006–2011

Adv. Appearance Modeling	A+	3D Geometry Processing	A+	Algorithm Design & Analysis	A+
Rendering Algorithms	A	Virtual Reality Principles	A	Software Engineering	A
Computer Animation	A+	Cognitive Science Seminar	A	Operating Systems	A

- **Undergraduate Level** | Sharif University of Technology | 2002–2006

Advanced Algorithms	A+	Artificial Intelligence	A+	C++ Programming	A+
Computer Graphics	A+	Systems Analysis	A+	Java Programming	A+
Engineering Graphics	A+	Theory of Computation	A	Programming Languages	A+
Software Engineering	A+	Adv. Information Retrieval	A	Discrete Mathematics	A+
Compiler Design	A+	Project Management	A	Probability & Statistics	A
Computer Networks	A+	Logic Circuits	A+	Electronic Circuits	A
Computer Networks Lab.	A+	Logic Circuits Lab.	A+	Electronic Circuits Lab.	A+
Computer Architecture Lab.	A+	Digital Systems Design Lab.	A+	Computer Workshop	A+

Technical Skills

- **Software and Technology**
Artificial Intelligence, System Architecture, Distributed Systems, Parallel Processing, Operating Systems, Machine Learning, Databases, Cryptography, Software Testing, Privacy, Search Engine Optimization, and Big Data.

- **Computer Graphics**
Rendering, Virtual Reality, Augmented Reality, Ray Tracing, Path Tracing, Photon Mapping, Image Processing, Visualization, Rasterization, Geometry Processing, 3D Modeling, Appearance Modeling, and 3D Animation.

- **Algorithms and Complexity**
Data Structures, Dynamic Programming, Divide & Conquer, Approximation Algorithms, Computational Geometry, Randomized Algorithms, Time & Space Complexity, Online Algorithms, Greedy Algorithms, and Game Theory.

- **Software Programming Languages**
  C/C++, Java, C#, OpenGL, RSL, Pascal, PHP, HTML, CSS, JavaScript, XML, SQL, and LaTex.

- **Operating Systems**
  Windows, Linux, Mac OS, and Android.

Professional Associations

- University of California San Diego Alumni Association
- ACM: Association for Computing Machinery
- ACM TOG: ACM's Transactions On Graphics
- ACM SIGGRAPH: ACM's Special Interest Group on Computer Graphics and Interactive Techniques
- University of California San Diego's ACM Team in Southern California Regional Contest | 2007
- IEEE: Institute of Electrical and Electronics Engineers
- IEEE Computer Society

Hobbies

- **Adventure:** Skydiving, Scuba Diving, Free Diving, Rock Climbing, Traveling, and Skiing

- **Visual Arts:** Drawing, Painting, Caricaturing, Photography, Carving, and Sculpting

- **Philosophy:** Consciousness, Metaphysics, Epistemology, Ethics, and Faith