

ANDREA S. KIM, MS

BIOMEDICAL VISUALIZATIONS | MEDICAL MIXED REALITY

page 1 of 2

CONTACT

Website www.andreaseung.com
Phone +1 (703) 399-5815
Email andrea.kim@fda.hhs.gov
andreakim39@gmail.com
Address 2204 Ellis Street
Silver Spring, MD 20910

PROFILE

I am an interactive designer and developer, medical 3d artist, and a researcher of augmented and virtual reality (XR) applications in medicine. My personal and professional goals involve providing interdisciplinary skills for creating and evaluating robust, visual solutions within the biomedical community. I am committed to patient safety, scientific accuracy, and excellence in design.

PROFICIENCIES

Interactive Developing Platforms

Unity 3D

Unreal Engine 4

OpenHaptics

Computer Programming Languages

C#, C++, Processing

HTML, CSS, Javascript

R

3D Modeling & Rendering Software

Pixologic ZBrush

Autodesk 3D Studio Max

Autodesk Mudbox

KeyShot Render

Substance Painter & Designer

Visual Molecular Dynamics

Materialise Mimics

itk-SNAP

2D Illustration & Design Software

Adobe Photoshop

Adobe Illustrator

Adobe InDesign

EDUCATION

AUG 2016 - NOV 2018

University of Illinois at Chicago, Chicago, IL

M.S. in Biomedical Visualization

Thesis Title: Development of Virtual Reality Applications in
Anatomical Education of the Hand and Forearm

Advisor: Cristian J. Luciano, Ph.D., UIC Bioengineering Dept.

SEP 2009 - MAR 2013

Northwestern University, Evanston, IL

B.A. in Psychology (Major)

Chinese Language & Culture (Minor)

Concentration in Pre-Medicine

JUN 2012 - AUG 2012

Peking University (Study Abroad), Beijing, China

Concentration in Traditional Chinese Medicine and
Public Health in China

WORK EXPERIENCE

NOV 2018 - PRESENT

U.S. Food & Drug Administration, Silver Spring, MD

Medical Mixed Reality ORISE Fellow

Division of Imaging, Diagnostics, and Software Reliability / OSEL / CDRH
Design bench test methodologies for spatiotemporal characterization of
extended-reality (XR) devices within context of medical applications.

Evaluate reliability and performance of software rendering systems and
optical properties associated with 3D head-mounted displays (HMDs).

Develop XR cross-platform applications in Unity as needed for research.

DEC 2013 - JUL 2016

Northwestern University, Feinberg School of Medicine, Chicago, IL

Certified Clinical Research Coordinator

Department of Surgery, Clinical Trials Unit

Led execution of 11 observational and interventional cardiology
clinical research trials.

Managed screening, consenting, and follow-up of trial subjects.

Attended cases in the operating room and guided the surgeon in
study-specific cardiac ablation lesions during open-heart surgery.

Took vitals, reviewed medications, assigned NYHA classifications, and
reported any adverse events or symptoms of trial subjects.

MAY 2013 - NOV 2013

Northwestern University, Feinberg School of Medicine, Chicago, IL

Research Project Coordinator

Department of General Internal Medicine

Performed venipuncture and ankle-brachial index measurements.

Ensured completion of study activities per protocol for interventional
drug trial, maintained analysis and evaluation of data.

Administered functional performance measures of study patients,
such as mini mental status questionnaires, balance and walking tests.

SEPT 2011 - APR 2013

The Family Institute at Northwestern University, Evanston, IL

Research Assistant

Focus: Generalized Anxiety Disorder (GAD) and Depression

Trained to code interactions using Structural Analysis of Social Behavior.

Code and transcribe videos of clients as an assessment tool to describe
dyadic social interactions between couples with GAD or depression.

ANDREA S. KIM, MS

BIOMEDICAL VISUALIZATIONS | MEDICAL MIXED REALITY

page 2 of 2

GALLERY EXHIBITIONS

March 16, 2018 - May 6, 2018
Group Exhibition:
Art with Heart
International Museum of Surgical
Science, Chicago, IL

April 1, 2017 - May 7, 2017
Group Exhibition:
Inside the World of Medical Art
International Museum of Surgical
Science, Chicago, IL

CERTIFICATIONS

Certified Clinical Research Coordinator
Issued 2015 - 2017 by the Association
of Clinical Research Professionals

Venipuncture
Issued 2013 by Northwestern
Memorial Hospital, Chicago, IL

UNIVERSITY ACTIVITIES

Social Chair, Executive Board Member
May 2017 - May 2018
Student Association of Medical Artists
University of Illinois at Chicago

Coxswain
Sept 2009 - Mar 2013
Varsity Men's Rowing Team
Northwestern University

Member, Service Fraternity
Sept 2010 - Jun 2011
Alpha Phi Omega
Northwestern University

VOLUNTEERING

Community Emergency Response Team
April 2014 - July 2016
Disaster and Humanitarian Relief.
Trained by the Northwestern
University Police Department in
disaster psychology and medical
operations.

LANGUAGES

Proficient in English

Proficient in Korean

Intermediate in Mandarin Chinese

AWARDS

JANUARY 29th, 2019

**1st Place in Serious Games & Virtual Environments
Best in Show Award for Student Category**
IMSH 2019 SimVentors Showcase, San Antonio, TX
Society for Simulation in Healthcare
Project Title: Virtual Reality Training Simulation for Learning
Hands and Forearm Anatomy
Advisor: Cristian J. Luciano, Ph.D.

APRIL 19th, 2018

2018 Chancellor's Student Service and Leadership Award
University of Illinois at Chicago, Chicago, IL
Presented by Chancellor Amiridis at 46th Annual Awards

PUBLICATIONS

SEPTEMBER 2019

Ryan Beams, **Andrea S. Kim**, Aldo Badano (2019, September).
"Measurement of transverse chromatic aberrations in virtual reality
headsets." *Frontiers in Optics + Laser Science APS/DLS*, pp. JW3A-88. OSA
Technical Digest (Optical Society of America).

SEPTEMBER 2019

Ryan Beams, **Andrea S. Kim**, Aldo Badano (2019, September).
"Transverse chromatic aberration in virtual reality head-mounted
displays." *Optics Express*, 27(18), pp. 24877-24884.

JUNE 2019

Ryan Beams, **Andrea S. Kim**, Wei-Chung Cheng, Aldo Badano (2019,
June). "38-1: Transverse chromatic aberrations in virtual reality devices."
SID Symposium Digest of Technical Papers, 50(1), pp.524-526.

SUBMITTED

Andrea S. Kim, Wei-Chung Cheng, Ryan Beams, Aldo Badano. "Color
Rendering in Mixed-Reality Medical Applications." (submitted).

SUBMITTED

Ryan Beams, Brendan Collins, **Andrea S. Kim**, Aldo Badano. "Character-
izing Angle Dependence of Resolution in Virtual Reality Head-Mounted
Displays." (submitted).

POSTER PRESENTATIONS

SEPTEMBER 2019

Ryan Beams, **Andrea S. Kim**, Wei-Chung Cheng, Aldo Badano (2019,
September). "Display performance characterization of virtual and
augmented reality devices for medicine." Poster Session presented at the
2019 FDA Science Forum, Silver Spring, M.D.

JUNE 2019

Andrea S. Kim, Ryan Beams, Wei-Chung Cheng, Aldo Badano (2019,
June). "Colour effects in the rendering of mixed-reality scenes." Poster
Session presented at the CIE 2019 29th Quadrennial Session,
Washington, D.C.

AUGUST 2017

Andrea S. Kim (2017, August). "Heart medicine inspired by Saw-Scaled
Viper (*Echis carinatus*)." Poster Session Presented at the the Association
of Medical Illustrators 2017 Annual Conference, Austin, T.X.

TALKS

JULY 2019

Andrea S. Kim (2019, July). "Augmented & Virtual Reality in Medicine."
30-minute seminar presented at the 2019 FDA Fellows Association
Summer Seminar Series, Silver Spring, M.D.