

SOPHIA BRUECKNER

CURRICULUM VITAE

Assistant Professor
Stamps School of Art & Design
University of Michigan - Ann Arbor

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EDUCATION

MS, Media Arts and Sciences, 2014
Massachusetts Institute of Technology, Cambridge, MA
Advisor: Pattie Maes
Thesis: *Out of Network: Technologies to Connect with Strangers*

MFA, Digital + Media, honors, 2012
Rhode Island School of Design, Providence, RI
Advisor: Kelly Dobson
Thesis: *Enraptured & Encoded*

Sc.B. Applied Mathematics/Computer Science, magna cum laude, 2005
Brown University, Providence, RI

PROFESSIONAL EXPERIENCE

- 2015- Assistant Professor, Stamps School of Art & Design, University of Michigan, Ann Arbor, MI
 With a courtesy appointment in the School of Information and an affiliation with Digital Studies.

- 2014 User Experience Designer, Otsuka Pharmaceutical, 2014
 Designed sci-fi-inspired hardware and software experience of a new health technology
 (research, interaction design, and CAD).

- 2013-14 Instructor, MIT Media Lab, Cambridge, MA

- 2014 Instructor, Rhode Island School of Design, Providence, RI

- 2012-14 Research Assistant, MIT Media Lab, Cambridge, MA
 Fluid Interfaces Group with advisor Pattie Maes.

- 2011-12 Instructor of Record, Rhode Island School of Design, Providence, RI

- 2011-12 Research Assistant, Rhode Island School of Design, Providence, RI
 With advisor Kelly Dobson.

- 2011-12 Instructor of Record, Rhode Island School of Design, Providence, RI

- 2011 Software Engineer Intern, Google Research, Cambridge, MA
 Worked with Martin Wattenberg and Fernanda Viégas on an experimental data visualization
 project.

- 2010 Software Engineer Intern, Google Research, Mountain View, CA
Worked with then CEO Eric Schmidt and Java founder Joshua Bloch to design and implement an experimental software prototype.
- 2005-8 Software Engineer, Google, Mountain View, CA
Front-end development and UX design of iGoogle, Google's personalized homepage (22.5 million users and 20% of all visits to Google's homepage in 2008). Designed and wrote some of the most popular iGoogle apps (millions of users). Worked closely with business partners including CBS, the New York Times, Sports Illustrated, Entertainment Weekly, the Wall Street Journal, and others on iGoogle apps.
- 2001-2 Research Assistant, Brown Department of Engineering, Providence, RI
Researched thin films in materials science/mechanical engineering departments.

AFFILIATIONS

- 2017- Association of Professional Futurists
2016- Courtesy Appointment, School of Information, University of Michigan
2016- Digital Studies Affiliation, University of Michigan
2013- Fellow, The Dalai Lama Center for Ethics and Transformative Values

AWARDS AND HONORS

- 2018 \$65k proposal development funding for a Michigan Humanities Collaboratory grant for "Sensing Algorithms: A Collaboratory" with Christian Sandvig, William A. Calvo-Quiros, John Granzow, and Cathlyn Newell

Invited visiting artist for 3 weeks on sci-fi and wearable tech, California College of the Arts
- 2017 Rogers Edge Award, Stamps School of Art & Design, University of Michigan. Recognizing a creative practice moves beyond disciplinary boundaries and brings together different kinds of people and ideas.

Affiliate Artist in Residence, Autodesk Pier 9, Jun 1-Jul 31, San Francisco, CA

Artist in Residence, Autodesk Pier 9, Feb 1-May 31, San Francisco, CA
- 2016 \$100k grant from National Academies Keck Futures Initiative for Global Heartbeat Project with Kentaro Toyama

#whitemirror, invited sci-fi event on positive futures, Los Angeles, CA

Ars Electronica Future Innovators Summit, Linz, AT

BMW rad°hub, invited design/futures event, Los Angeles, CA

Nominated for University of Michigan's Golden Apple Teaching Award

University of Michigan Road Scholar

Invited Juror, Bowling Green State University Undergraduate Exhibition, Bowling Green, OH

Artist Collaboration with Art and Machine Intelligence team in Google Research, (Funding cut; award not disbursed)

2015 Eyeo Festival Artist Fellow

Signal Culture Toolmaker Residency, NY

2014 MIT Harold and Arlene Schnitzer Prize in the Visual Arts, 2nd place

Anne and Michael Spalter collection acquires *Eye of the Beholder*

2012 \$4k Turbulence.org networked art commission with Catherine D'Ignazio

2011 RISD graduate fellowship and assistantship

National Science Foundation grant for AVAToL Ideas Lab

2010 RISD graduate fellowship and assistantship

2008 Google's EMG (Executive Management Group) Impact Award for outstanding innovation on iGoogle

SELECTED EXHIBITIONS

2018 *ACM TEI 2018*, Stockholm, SE
Embodisuit in juried exhibition at international Tangible Embedded Interfaces conference.

INTERSECTIONS, Connecticut College, CT
Embodisuit in juried exhibition at The Ammerman Center for Arts and Technology 16th Biennial Symposium.

Call & Response, NURTUREArt, Brooklyn, NY
Invited to show multiple works in code-themed exhibition curated by Kelly Rae Aldridge.

2017 *ACM SIGGRAPH Asia 2017*, Bangkok, Thailand
Embodisuit in "Mind-Body Dualism" juried exhibition from an international call for work.

Technarte Los Angeles 2017, CA
The *Embodisuit* was 1 of 6 selected from an international call for work related to wearable technology.

ACM IoT 2017, Ars Electronica Center, Linz, Austria
Embodisuit in juried exhibition at international conference for Internet of Things, catalogue.

ISEA 2017: Bio-Creation and Peace, Art Museum of Caldas, Manizales, Colombia
New versions of *Empathy Box* and *Empathy Amulet* in juried exhibition.

The Jump Off, Urban Institute of Contemporary Art, Grand Rapids, MI
Curated by UICA's Exhibitions Curator, Heather Duffy, from a national call for work.

HASTAC 2017, Orlando, FL
Embodisuit in *The Wearable and Tangible Possible Worlds of Digital Humanities* exhibition curated by Jacqueline Wernimont and Kim Knight.

Not of This Earth: Contemporary Art and Science Fiction, Boston Cyberarts Gallery, Boston, MA

Curated by Boston Cyberarts director George Fifield and Michael Lewy.

Body Politic, OPEN Gallery, Boston, MA
Curated by Laura Zittrain, catalogue.

eTextile Summer Camp, Paillard Centre d'Art Contemporain & Résidence d'Artistes, Poncé sur le Loir, France
Exhibited Embodisuit at annual gathering of leaders in wearable technology and eTextiles.

#EXSTRANGE, Project Anywhere, published
Curated by Rebekah Modrak and Marialaura Ghidini, catalogue.

CreateWorld 2017, Brisbane, AU
Invited to show Embodisuit in an exhibition on mobile technologies at the CreateWorld conference.

Liverpool MakeFest, Liverpool Central Library, UK
Exhibited Embodisuit.

Google International Women's Day Summit, Cambridge, MA
Invited to exhibit three software-based artworks.

Pier 9 Showcase, Autodesk, San Francisco, CA

2016 *Science and Technology by Other Means*, 4S/EASST, Hangar, Barcelona, ES
Curated by Anita Chan.

CreateWorld 2016: The Creativity of Things, Webb Gallery, Brisbane, AU
Invited to show Empathy Box and Amulet in group exhibition.

2015 *Shaker Traditions Contemporary Translations*, Canterbury Shaker Village, NH
Curated by museum executive director Funi Burdick.

+ / - , Joseloff and Slipe Galleries, Hartford Art School, CT
Curated by Boston Cyberarts director George Fifield, catalogue.

Altered Books: Digital Interventions, SIGGRAPH, CA
Curated by Copper Giloth and Hye Yeon Nam.

Signal from Noise, CCS Galleries and Hessel Museum of Art, Bard College, NY
Curated by Elizabeth Larison.

Stimulus - Response - Affect, Oakland University, MI
Curated by Colleen Ludwig and Vagner Whitehead, catalogue.

Print Screen International Digital Culture Festival, Holon Cinematheque, Israel
Curated by Liat Berdugo.

LISTENING: An irregular evening of Music, Poetry, and Radiophonic Art, The Lilypad, Cambridge, MA
Curated by Connor Gillies and Audrey Mardavich.

2014 *Sound/System*, Peabody Essex Museum, Salem, MA

Schnitzer Prize Exhibition, Wiesner Art Gallery, MIT, Cambridge, MA

Crossover, Boston Cyberarts Gallery, Boston, MA

Curated by Boston Cyberarts director George Fifield, catalogue.

OPENSIGNAL Festival, Brown University, Providence, RI
Sound installation, curated by the OPENSIGNAL artist collective.

COLLISION20: bilocate, Boston Cyberarts Gallery, Boston, MA
Curated by William Tremblay and Georgina Lewis.

The Emperor's New Aesthetic, Emmanuel Gallery, Denver, CO
Curated by David Fodel and Matt Jenkins.

2013 *Paper to Pixels*, Infrared5, Boston, MA
Curated by Infrared5 CEO and Creative Director Rebecca Smith Allen.

Video Snack, Bogart Studios, Brooklyn, NY
Curated by Lauren Francescone.

Phases, Boston Harbor Islands Pavilion, Boston, MA
Software installation at national park welcome center located in Boston's Rose Kennedy Greenway, curated by Boston Cyberarts director George Fifield.

iSkyTV, Turbulence, <http://www.turbulence.org>
Networked art commission from Turbulence with Catherine D'Ignazio.

Media Lab @ SXSW Interactive event/exhibition with my sci-fi students, Austin, TX

The Other Festival, MIT Media Lab, Cambridge, MA

Circumtext, Fictilis, Portland, OR
Curated by Andrea Steves and Timothy Furstnau.

2012 *#101112*, Spacebar Gallery, Linz, AT
Curated by Nina Wehnert.

Brunel Electronic and Analogue Music (BEAM) Festival, London, UK
Curated by Atau Tanaka.

Showcase / The Thesis Book, Sol Koffler Gallery, Providence, RI
Curated by Anne West.

RISD MFA Thesis Show, Providence, RI

COLLISION17: transformer, AXIOM Center for New and Experimental Media, Boston, MA
Curated by William Tremblay and Georgina Lewis.

From This Point Forward, Gelman Gallery, Providence, RI
Curated by Paloma Barhaugh-Bordas and Genevieve Lowe.

Fonlad Digital Arts Festival, Portugal
Curated by José Vieira.

SONiKFest, Brooklyn, NY
Curated by Mitsu Hadeishi and Seyhan Musaoglu.

The First Show, Multiplexer, Las Vegas, NV
Curated by David Sanchez Burr.

Transceiver, Bemis Center for Contemporary Art, Lincoln, NE
Curated by Angeles Cossio, Jeff Thompson, and Joel Damon.

Transceiver, Drift Station Gallery, Lincoln, NE
Curated by Angeles Cossio, Jeff Thompson, and Joel Damon.

Mediated Realities, Cohen Gallery, Granoff Center, Providence, RI
Curated by J. Susie Hwang.

Come Here, I Need You, Gelman Gallery, Providence, RI
Curated by Amanda Thackray and Rain Vasquez.

Older Than Bambi, Sol Koffler Gallery, Providence, RI

basic.fm April radio programme, The Pixel Palace, UK

Mirror Images, Krefit Gallery, Ann Arbor, MI
Juried by Gallery Project Directors Gloria Prischet and Rocco DePietro.

Or a Motel, EiM Gallery, Toronto, Canada
Curated by Eric Powell and Matt Griffin.

2010 *GLI.TC/H*, Amsterdam, NL
Curated by Nick Briz, Rosa Menkman, Jon Satrom, and Evan Meaney.

GLI.TC/H, Chicago, IL
Curated by Nick Briz, Rosa Menkman, Jon Satrom, and Evan Meaney.

Chopped & Stretched, Drift Station Gallery, Lincoln, NE
Curated by Angeles Cossio and Jeff Thompson,

On the Threshold of Something Else, Something Other..., Sol Koffler Gallery, Providence, RI
Curated by Tamara Johnson.

2009 *Framed*, solo show at Scout, Santa Cruz, CA
Three curated group exhibitions at Cabrillo College, Santa Cruz, CA

PUBLICATIONS

2018 Sophia Brueckner and Rachel Freire. "Embodisuit: A Wearable Platform for Embodied Knowledge". *In arts track proceedings of ACM TEI 2018 Conference on Tangible Embedded Interfaces.*

Rachel Freire, Paul Strohmeier, Cedric Honnet, Jarrod Knibbe, and Sophia Brueckner. "Designing eTextiles for the Body: Shape, Volume, & Motion". *In workshop proceedings of ACM TEI 2018 Conference on Tangible Embedded Interfaces.*

2017 Sophia Brueckner and Rachel Freire. "Embodisuit: A Wearable Platform for Embodied Knowledge". *In arts track proceedings of ACM IoT Conference on Internet of Things.*

SELECTED PRESS

2018 EdSurge podcast, [Ready Player One: Science Fiction's Vision for The Future of Education](#)
Study International News, [Designing for Social Change](#)

2017 [College Art Association Education Podcast](#), interview on using sci-fi in design education
Inc., [Want to Future-Proof your Career?](#)

- The University Record - University of Michigan*, Spotlight Profile
Emergence, Stamps School magazine, [Sophia Brueckner on Tech, Humanity, Futures](#)
The Michigan Daily, [Dreamers and Disruptors at TEDxUofM](#)
Upload VR, [White Mirror: A Positive Vision for the Future of Technology](#)
- 2016 *APEX Experience* magazine, [Narrative Devices: What Can IFE Learn From Sci-Fi?](#)
- 2015 *Wired*, [How to Use GIFs to Teach Computers About Emotions](#)
Hackaday, [Play Music With Your Painting](#)
Synthopia, [Sophia Brueckner's Touch Sensitive Musical Painting](#)
Hartford Courant, [Cutting-Edge Tech Sculpture Exhibit at University of Hartford Gallery](#)
- 2014 *Smithsonian Magazine*, [How America's Leading Science Fiction Authors are Shaping Your Future](#)
Los Angeles Times, [The MIT Media Lab Class That Makes Science Fiction Real](#)
Scientific American, [Students Combine Arts and Science While Exploring "Transhumanism"](#)
Fast Company, [Take Note, Facebook: How Colleges Are Training Designers To Treat Users Like More Than Lab Rats](#)
Huffington Post, [When Science Fiction Gets Real](#)
Fast Company, [Mad Scientist 101: A New MIT Class Aims To Turn Science Fiction Tech Into The Real Thing](#)
The Creators Project, [Brown, MIT, And RISD Are Implanting Art Into Their Transhumanist Experiments](#)
Chicago Tribune, [Why Sci-Fi is Obsessed with the Near Future](#)
The Harvard Crimson, [Motion Picture](#)
Fast Company, [From MIT, An Interactive Book That Makes You Feel Character's' Pain](#)
Rhizome, [Locative Media Revisited](#)
MIT News, [MIT students win annual Schnitzer Prize in the visual arts](#)
Boston Magazine, [What If Books Physically Replicated the Protagonist's Emotions?](#)
Providence Business News, R.I., Mass. students collaborate on STEAM
- 2013 *The Atlantic*, [Why Today's Inventors Need to Read More Science Fiction](#)
The Atlantic, [The History of Invisibility Cloaks, as Told by People in the Future](#)
Wired, [Science Fiction to Science Fabrication](#), Bruce Sterling
io9, [At MIT, engineers are taught that scifi is crucial to do good science](#)
MIT Spectrum, [Why Should Inventors Read Science Fiction?](#)
Studio 360, WNYC, NPR, [At MIT, An Ethics Class for Inventors](#)
Digital Culture, KPFK 90.7 FM, [Sci-Fi to Sci-Fab: Bringing Science Fiction to Inventors](#)
Sky News, UK, TV interview
 Digital Village Radio
The Shift, CKNW, Vancouver
WGN Radio, Chicago
Newstalk Radio Ireland
Wisconsin Radio News, WTMJ
Ripley's Believe It or Not
Wait, Wait, Don't Tell Me, NPR
- 2012 *KVNO News*, [WEB EXTRA: Bemis Underground's Transceiver: Drift Station](#)
The Reader, [Lincoln Calling](#)

INVITED TALKS

- 2018 Creative Tech Week, panelist on IoT, hardware prototypes, and interactive design, NYC
 Intersections: 16th Biennial Symposium on Arts & Technology, Connecticut College, CT
 Becoming Digital Conference, Taubman School of Architecture, University of Michigan
 Art + Gaming Symposium, University of Michigan and the Ann Arbor District Library
- 2017 [TEDx](#), 1 of 8 invited speakers, Ann Arbor, MI
 VergeNYC, Parsons School of Design, NYC
 Technarte Los Angeles 2017, CA
 ACM SIGGRAPH Asia 2017, Bangkok, Thailand
 ISEA 2017: Bio-Creation and Peace, Manizales, Colombia
 Carnegie Mellon University, [Human Computer Interaction Institute Seminar Series](#), PA

- Rhode Island School of Design, Digital + Media, visiting artist, RI
 ACM IoT 2017, Ars Electronica Center, Linz, Austria
 Lenovo + Healthdesignby.us Innovation Co+Lab, University of Michigan
 Emergent Research Series, University of Michigan Library
 Literati, talk about #exstrange eBay exhibition, Ann Arbor, MI
 2016 Pratt Institute, Digital Arts Lecture Series, NYC
 Critical Making and Body Politics, panelist, School of Information, University of Michigan
 MISC, School of Information, University of Michigan
 Digital Studies, University of Michigan
 2015 STS Mini-Conference, School of Information, University of Michigan
 Stimulus - Response - Affect, Oakland University, MI
 TechShop, Detroit, MI
 ReThinking Mindfulness, Massachusetts Institute of Technology, Cambridge, MA
 2014 @party demoparty, Cambridge, MA
 MassArt Dynamic Media, guest critic, Cambridge, MA
 RISD Digital + Media, guest critic, Providence, RI
 2013 LISA (Leaders in Software and Art), the New School, NYC
 2012 Artist lecture, Brown University, RI
 2011 Rose Whelan Society for Women in Mathematics, invited panelist on women in applied math,
 Brown University, RI

WORKSHOPS

- 2017 Designing eTextiles for the Body: Shape, Volume & Motion, TEI 2018, Stockholm
 Sci-fi workshop, ISEA 2017: Bio-Creation and Peace, Manizales, Colombia
 RISD Digital + Media, workshop with grad students on sci-fi and social prosthetics
 2016 Sci-fi workshop, Innovation, Economic Driver, Disruption: Utopias and Critiques of Making and
 Hacking, 4S/EASST, Barcelona
 Sci-fi workshop, FemTechNet Signal/Noise Conference, Ann Arbor, MI
 Augmented Human design workshop, School of Medicine/School of Information/Center for
 Entrepreneurship, University of Michigan
 2013 Sci-fi workshop, Better World by Design Conference, Providence, RI

OTHER TALKS

- 2017 Co-organized two salons on technology ethics at Autodesk Pier 9 with a diverse group of experts
 from the Bay Area.
 2007-8 As one of the most popular iGoogle app developers in the world, I gave many Google Gadget API
 talks throughout the world including at Google Developer Day in Tokyo, Google Developer Night
 in Seoul, several universities in Japan, Google London, and Google Mountain View reaching
 thousands of developers.

TEACHING

Sci-Fi Prototyping

University of Michigan, Fall 2016, Fall 2017

Combining sci-fi, speculative futures, functional prototypes, and the ethics of design/invention.

Digital Fabrication

University of Michigan, Fall 2015, Spring 2016, Fall 2016, Spring 2018

CAD/CAM, laser cutting, 3D printing, 3D scanning, CNC milling, etc.

Creative Programming

University of Michigan, Fall 2015, Spring 2016

Rhode Island School of Design, 2010-2012

Processing (Java) courses at U of M and workshops in RISD Foundation Studies and RISD Digital + Media.

Visiting Artist at for WEARtech Course on Sci-Fi and Wearable Technologies

California College of the Arts, Fashion Department, Summer 2018

Invited visiting artist for 3 weeks to share expertise on science fiction, futures, and wearable technology in the Fashion Design department.

Human + Computer

Massachusetts Institute of Technology, Rhode Island School of Design, Brown, Wintersession 2014

Wearables, human augmentation, and alternative communication devices. The course combined an introduction to the Arduino GSM module (used to make DIY cell phones), an overview of digital fabrication processes (laser cutting, CNC milling, 3d printing), critical and speculative design, and sci-fi readings culminating in an exhibition at RISD Exposé.

Science Fiction to Science Fabrication

MIT Media Lab, Fall 2013

Science fiction, prototyping, and the ethics of design/invention for graduate students at the MIT Media Lab and Harvard.

Exploring Sci-Fi

Rhode Island School of Design, Wintersession 2011

Designed syllabus and taught course combining science fiction, art theory readings, and studio work for graduates and undergraduates.

Integrative Project

University of Michigan, 2017-2018

Yearlong senior project and thesis for Art & Design and Interarts students culminating in an exhibition and performances.

Faculty Advisor

Advisor to Kady Jesko (MDes), Bridget Quinn (MFA) Shafagh Hadinezhad (MDes), Laura Magnusson (MFA), Anand Doshi (MSI), Fidelia Lam (PAT MA), Rachel Krasnick (independent study on wearables, sci-fi, and digital fabrication), Ryan Tepper (ME undergrad working on robots that make art), BA Capstone Advisor to Daniel Vincenz, Anna Hardig, and Cydne Robinson. Faculty advisor to Stamps digital fabrication club.

Fab Lab Technical Assistant, Haystack Mountain School of Crafts, Deer Isle, ME, 2013-2014

Managed Haystack's Fab Lab and assisted instructors and students in applying digital fabrication processes (ShopBot, laser cutter, vinyl cutter, etc.) to traditional crafts.

Teaching Assistant, MIT, RISD, and Brown, 2001-2005, 2010-2013

Classes taught: How To Make Almost Anything (digital fabrication and electronics production), Intro to Creative Programming (Processing), Intro to Algorithms and Data Structures, Javanese Gamelan, and Head TA for Advanced Algorithms.

SERVICE TO PROFESSION

Tangible Embedded Interfaces (ACM TEI) Conference, 2019

Co-chair of student design competition.

New Musical Interfaces (ACM NIME) Conference, 2018

Invited reviewer for the installations category at the International Conference on New Interfaces for Musical Expression, which gathers researchers and musicians from all over the world to share their work on interface design, human-computer interaction, and computer music.

UNIVERSITY SERVICE

Facilities Committee, 2015-2018

Building spaces to accommodate new technologies including digital fabrication studio, electronics, etc. as well as foster a collaborative maker culture.

AR/VR/MR Campus Steering Committee, 2016-2018

Represented Stamps in university-wide effort to collaborate with industry in developing curriculum, supporting research, and building physical lab spaces such that U of M becomes a leader in the AR/VR/MR space. Met with leadership in CA and WA at Microsoft, Google, Oculus, Samsung, etc. to secure partnerships.

Undergraduate Committee, 2018

Overseeing the overall quality and character of the undergraduate educational experience. Monitoring student learning and the depth and breadth of their education.

Design Salon Committee, 2015-2018

Organizing diverse salons to create research opportunities and increase Stamps' reputation in the field of design.

Creative Resources Committee, 2016-2017

Supporting and increasing the visibility of the creative work and research of my colleagues.

Safety Committee, 2016-2017

Maintaining a high level of safety standards and establishing new procedures with a particular focus on students safely learning to use equipment themselves.

Hiring Committee for Director of Duderstadt Center, 2016

Interdepartmental committee to hire a director that supports interdisciplinary research, new technologies, and makerspaces.

Bicentennial Anniversary Committees, 2016-2017

Contributing sci-fi/futures expertise and ideas to the future-related aspects of U of M's big celebration.

Michigan Road Scholar Selection Committee, 2017

Choosing a diverse group of faculty and staff from all U of M campuses to go on the Road Scholar trip.

SKILLS

C/C++, JavaScript, HTML5, Java, Python, Cinder, openFrameworks, Processing, OpenGL, Kinect, openCV, Max/MSP, Arduino, AVR embedded programming, MatLab

SolidWorks, Rhino, Fusion 360 CAD/CAM, Inventor, AutoCAD, QCAD, SketchUp, Vectric Cut2D/Cut3D/Carve, Mastercam, RhinoCam, Eagle, Magics, MeshLab, NetFabb, Linux, Adobe Creative Suite, Gimp, Inkscape

CNC machining including 5-axis and metal, laser cutting, waterjet cutting, vinyl cutting, vacuum forming, electronics production, 3D printing, 3D scanning

Molding and casting, woodworking, metalworking, glass frameworking, sewing

Polish, French

Lead rock climber, both traditional and sport

Scruggs style/two-finger/clawhammer banjo, fingerstyle guitar, classical piano