

# PINAR YANARDAG

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## CONTACT INFORMATION

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## EDUCATION

**Massachusetts Institute of Technology**, May 2016-July 2018  
Cambridge, MA, United States, <http://www.media.mit.edu>

- Postdoctoral Research Associate at MIT Media Lab
- Research in human-AI collaboration, augmented creativity, deep learning.

**Purdue University**, Department of Computer Science, Aug 2010-May 2016  
West Lafayette, IN, United States, <http://www.cs.purdue.edu>

- Ph.D. in Computer Science
- Thesis: Information Overload in Structured Data
- Research in recommender systems, graph mining

**Bogazici University**, Department of Computer Engineering, Feb 2009-Jun 2010  
Istanbul, Turkey, <http://www.cmpe.boun.edu.tr>

- M.Sc. in Computer Engineering (completed the program in 3 semesters)
- Thesis: "An Interactive Web-Based Machine Learning Framework"
- Research in machine learning

**Canakkale University**, Department of Computer Engineering, Sep 2003-Jun 2007  
Canakkale, Turkey, <http://ce.comu.edu.tr>

- B.Sc. in Computer Engineering (ranked 2nd in the department)
- Research in operating systems, cryptography

## AWARDS & HONORS

72nd Primetime Emmy Award Nominee for Creative Director (Westworld/HBO), 2020  
TUBITAK 2232 Fellow (research grant for \$400K USD), 2019  
Finalist, MIT 15K Creative Arts Competition, 2019  
Technology Frontiers Award at MIT Breastpump Hackathon, 2018  
Fulbright Ph.D. Fellowship, 2010-2015  
Purdue Graduate Tuition Scholarship, 2010-2015  
Twitter Womeng Fellowship, 2015  
Google Anita Borg Memorial Scholarship, EMEA, 2010  
Google Summer of Code Mentor, 2008, 2009  
Linux Users Association of Turkey (LKD) Annual Award, 2006, 2007

## PUBLICATIONS

Oguz Kaan Yuksel, Enis Simsar, Ezgi Gulperi Er, **Pinar Yanardag**, "LatentCLR: A Contrastive Learning Approach for Unsupervised Discovery of Interpretable Directions", International Conference on Computer Vision (ICCV), Canada, 2021

Dilara Gokay, Enis Simsar, Efehan Atici, Atif Emre Yilmaz, Alper Ahmetoglu, **Pinar Yanardag**, "Graph2Pix: A Graph-Based Image to Image Translation Framework", Advances in Image Manipulation Workshop at ICCV, Canada, 2021

**Pinar Yanardag**, Nick Obradovich, Manuel Cebrian, Iyad Rahwan, "Nightmare Machine: A Large-scale Study to Induce Fear using Artificial Intelligence", International Conference on Computational Creativity (ICCC), 2021

**Pinar Yanardag**, Manuel Cebrian, Iyad Rahwan, “Shelley: A Crowd-sourced Collaborative Horror Writer”, ACM Creativity & Cognition, 2021

Shihao Ji, Hyokun Yun, **Pinar Yanardag**, Shin Matsushima, SVN Vishwanathan, “WordRank: Learning Word Embeddings via Robust Ranking”, The Conference on Empirical Methods on Natural Language Processing (EMNLP), Austin, 2016

**Pinar Yanardag**, SVN Vishwanathan, “A Structural Smoothing Framework For Robust Graph Comparison”, 29<sup>th</sup> Conference on Neural Information Processing Systems (NIPS), Canada, 2015

**Pinar Yanardag**, SVN Vishwanathan, “Deep Graph Kernels”, 21<sup>st</sup> ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD), Australia, 2015

Mariheida Cordova\*, **Pinar Yanardag**\* (Joint first-authors), “Turning Down the Noise in Classrooms”, Web Science and Technology for Education Workshop, WWW, Canada, 2016

**Pinar Yanardag**, SVN Vishwanathan, “A Submodular Framework for Graph Comparison”, Networks in the Social and Information Sciences Workshop at NIPS, Canada, 2015

**Pinar Yanardag**, Rean Griffith, Anne Holler, Xiaoyun Zhu, “Vertical Scaling of Network I/O Reservations in Cloud Datacenters”, RADIO, USA, 2014

**Pinar Yanardag**, Rean Griffith, Anne Holler, K. Shankari, Xiaoyun Zhu, Ravi Soundararajan, Adarsh Jagadeeshwaran, Pradeep Padala, “Crowdsourced Resource Sizing of Virtual Appliances”, 7<sup>th</sup> IEEE International Conference on Cloud Computing (IEEE CLOUD), USA, 2014

**Pinar Yanardag**, SVN Vishwanathan, “Understanding and Analyzing Tweets using Submodularity”, 22<sup>nd</sup> International World Wide Web Conference (WWW) Companion, Brazil, 2013

## PATENTS

**Pinar Yanardag**, Rean Griffith, Anne Holler, K. Shankari, Xiaoyun Zhu, Ravi Soundararajan, Adarsh Jagadeeshwaran, Pradeep Padala, ‘Crowd-sourced Operational Metric Analysis of Virtual Appliances’, US Patent US20150379167A1, 2015.

## PROFESSIONAL EXPERIENCE

**Principal Investigator** (Bogazici University, Turkey) **Feb 2019-Present**  
Managing a government-funded research project (\$400K USD) at Bogazici University, and running a research lab consisting 5 students. Teaching courses on deep learning and artificial intelligence topics.

**Founder and CEO, A.I. FICTION** ([www.ai-fiction.com](http://www.ai-fiction.com)) **July 2018-Present**  
Founder of A.I. Fiction, a creative lab specialized in artificial intelligence. A.I. Fiction develops projects that move human-AI relationship forward, and allow the public to experiment and collaborate with AI.

Our work is nominated at 72nd Primetime Emmy Awards for Westworld (HBO) - Main Title category.

**Co-founder, The Glitch** **Jan 2019-Sept 2020**  
The Glitch is world’s first AI fashion brand with fashion designs created by generative adversarial networks and made in real life by human collaborators. Our signature product is “Little Black Dress reimaged by AI” ([lbd-ai.com](http://lbd-ai.com)). Our brand is one of the finalists of MIT 15K Creative Arts Competition 2019.

**Postdoctoral Research Associate, MIT Media Lab** **June 2016-July 2018**  
Worked on projects that focus on human-AI collaboration and creative machine learning. Launched the largest public experiment on testing how AI can induce emotions and empathy (see **PROJECTS** section).

**Machine Learning Scientist Intern at Amazon, Seattle, WA** **July 2015-Sep 2015**

(Search & Discovery, Personalization P13N Team)

Worked at Video Recommendations and Ebooks project towards improving Amazon's recommendation system (i.e., "Customers who bought this item also bought that" recommendations), and developed a deep learning-based framework for e-book similarity as a side project.

**R&D Intern at VMware, Palo Alto, CA** **June 2014-Aug 2014**

(Distributed Resource Management Team)

Worked towards ensuring the virtualized applications meet service level objective (SLO) by vertically scaling network resources of the applications using regression models. This work is published at RADIO'14.

**R&D Intern at VMware, Palo Alto, CA** **June 2013-Aug 2013**

(Distributed Resource Management and Performance Teams)

Worked towards automatically generating sizing recommendations for virtual machines using statistical machine learning. This work is published at IEEE CLOUD'14.

**Graduate Research Assistant at Purdue, West Lafayette, IN, USA** **Aug, 2012 - May 2016**

Graduate Research Assistant in Department of Computer Science and Department of Statistics (Jan, 2012-May, 2014), Office of the Vice President for Information Technology (Aug, 2014-May, 2015) and Department of Computer Science (Aug, 2015-May, 2016).

**Researcher at Bogazici University, Istanbul, Turkey** **Dec, 2009 - Jul, 2010**

(Department of Computer Engineering, Perceptual Intelligence Lab)

Developed an interactive, web-based machine learning framework under supervision of Prof. Ethem Alpaydin. This framework allows users to run, compare and analyze the datasets with a wide range of classification, dimensionality reduction, hypothesis testing and evaluation methods.

**Researcher and Team Leader at TUBITAK UEKAE, Istanbul, Turkey** **Nov, 2007 - Nov, 2009**

(Turkish NSF - National Research Institute of Electronics and Cryptography)

Worked as one of the core-developers of Pardus GNU/Linux (national operating system of Turkish government) and led Pardus Security Team. I was responsible for resolving vulnerabilities affecting the security of Pardus and issuing security advisories by directly collaborating with Linux vendors.

**TEACHING  
EXPERIENCE**

**Instructor, Bogazici University, Turkey** **Feb. 2019**

(Department of Computer Engineering)

(Bogazici University is one of the oldest universities in Turkey, ranked as #1 in Turkey by US News.)

Teaching graduate level "Advanced Topics in Deep Learning", and "How to Generate (Almost) Anything" courses.

**Instructor, London College of Fashion, UAL UK** **Feb. 2020-Apr. 2020**

(London College of Fashion is one of the top 3 fashion schools in the world)

Teaching the world's first academic course on fashion and artificial intelligence: "AI and Fashion" course at London College of Fashion.

**Teaching Assistant, Massachusetts Institute of Technology, Boston, USA** **Sep. 2017**

(MIT Media Lab)

Teaching assistant for "MAS.S67 Machine Learning, Society & Autonomy" class where I gave deep learning tutorials and labs.

**Co-instructor, Purdue University, West Lafayette, USA** **Sep. 2017**

(Department of Statistics)

Co-instructor (w/Prof. SVN Vishwanathan) of "STAT598Z: Introduction to Computing for Statisticians".

## PROJECTS

### **Creator, How to Generate (Almost) Anything** ([www.howtogeneratealmostanything.com](http://www.howtogeneratealmostanything.com)) **Aug. 2019**

How to Generate (Almost) Anything (HTGAA) is a creative collective of artists and scientists where we aim to create AI systems to augment human capabilities and pushing the boundaries of creativity. Since the launch of the project on 8/2018 we worked with artisans, artists and scientist from various industries and showcased how humans and machines can work together. Currently, the project includes –to the best of our knowledge, world’s first –human-AI collaborated fashion designs, perfume, pizzas, jewelry, arcade songs, graffiti, theater play, chocolate truffles, and more!

### **Creator, Nightmare Machine** ([nightmare.mit.edu](http://nightmare.mit.edu)) **Oct. 2016**

Nightmare Machine is world’s first large-scale experiment to test whether artificial intelligence can induce emotions through GAN-generated images, in particular, fear. Over the course of two weeks leading up to Halloween 2016, Nightmare Machine collected over 2 million votes from over 100 countries on what is scary and not through AI-generated scary imagery (generative adversarial networks and neural style transfer).

**Selected Media:** Washington Post, The Atlantic, Forbes, BBC, NPR, Boston Globe, NBC, Vice.

### **Creator, Shelley** ([shelley.ai](http://shelley.ai)) **Oct. 2017**

Shelley is world’s first horror writer AI, trained on horror stories from Reddit’s famous r/nosleep subreddit. Powered by a recurrent neural network that takes crowd’s feedback into account with an online learning component, Shelley invites users to write horror stories together in a truly collaborative fashion. Over the course of two weeks leading up to Halloween, more than 500 parallel stories are written by Shelley and Twitter users.

**Selected Media:** TIME, Washington Post, The Guardian, Huffington Post, CBS, New Scientist, Fortune, Newsweek

### **Co-creator, Deep Empathy** ([deepempathy.mit.edu](http://deepempathy.mit.edu)) **Oct. 2017**

In collaboration with UNICEF, we pursue a scalable way to increase empathy. We use deep learning algorithms to learn characteristics of Syrian neighborhoods after the war (for example, Aleppo, Syria), and uses these features to transform images of cities all over the world, simulating how they would look if they suffered disasters like those in Syria. We used these simulated images to investigate whether AI can induce more empathy.

**Selected Media:** New Scientist, Fast Co Design, Digital Trends, Le Monde, Der Spiegel

### **Creator, Virtual Letdown** ([www.virtual-letdown.com](http://www.virtual-letdown.com)) **Apr. 2018**

Virtual Letdown is an immersive virtual reality app that help moms pump milk more efficiently, and enjoyably. Specifically targeted for moms who pump at work and pre-term moms who need to establish & maintain their milk supply while their babies are in NICU, Virtual Letdown is winner of Technology Frontiers Award by Lansinoh at MIT’s Breastfeeding Hackathon in 2018.

**Selected Media:** The Boston Globe, The Guardian, STAT News

## SELECTED TALKS

- **Invited Speaker**, “Human-AI Collaboration: The New Art Duo” (NVIDIA GTC Conference, San Jose, USA, 2019)
- **Invited Speaker**, “How to Generate (Almost) Anything” (Frontiers in Science, Technology, and the Arts, MIT, 2019)
- **Invited Speaker**, “Human-AI Collaboration” (Congreso Futuro, Santiago, Chile, 2019)
- **Keynote Speaker**, “Humans and Machines Stronger Together” (North American Chilean Institute, Santiago, Chile, 2019)
- **Presenter**, “Understanding community and user dimensions on Reddit” (Grace Hopper Celebration of Women in Computing, Houston, USA, 2015)
- **Presenter**, “Deep Graph Kernels” (Grace Hopper Women in Computing, Houston, 2015)

- **Presenter**, “How to beat the devil: Using Statistical Machine Learning methods in Diablo III” (Grace Hopper Celebration of Women in Computing, Minneapolis, 2013)
- **Panelist**, “Getting Started in Free and Open Source Software” Panel (Grace Hopper Celebration of Women in Computing, Atlanta, 2010)
- **Presenter**, “An Interactive Web-Based Machine Learning Suite” (Google Anita Borg Memorial Scholarship Retreat, Google Zurich, Switzerland, 2010)
- **Session Leader**, “Reversing the Trend: Women in Open Source” (Google Mentor Summit, Mountain View, 2009)
- **Session Leader**, “Open Source Security” (Google Mentor Summit, Google Headquarters, Mountain View, 2008)
- **Panelist**, “Women in Computing: Career to the Life” Panel (Middle East Technical University, Turkish Free Software and Open Source Conference, Turkey, 2007)

OTHER SERVICES

- **Reviewer** at NeurIPS, AISTATS, ICML, CVPR, ICCV Conferences
- **Student Ambassador** at VMware University Programs, 2013, 2014
- **Co-organizer** of Machine Learning Seminar at Purdue, 2013
- **Maintainer** of Battle of Wesnoth Turkish Translation Team, 2008
- **Maintainer** of Ruby Language Turkish Translation Team, 2008
- **Maintainer** of G-NUT Translation Project, 2007
- **Co-founder** of Linux Quake Project, 2007

OTHER SCHOLARSHIPS

- **NSF** Travel Grant × 3: SIGKDD Conference in Sydney, 2015, Richard Tapia Conference in Washington DC, 2013, GHC Conference in Portland, 2011
- **Google** Travel Grant × 5: Google GRAD CS Forum in Mountain View, 2012, Richard Tapia Conference in San Francisco, 2011, Global Community Scholarship for GHC in Atlanta, 2010, ICML Conference in Haifa, 2010, QCon Software Development Conference in London, 2010
- **EMC** Travel Grant, GHC Conference in Minnesota, 2013
- **Python Foundation** Travel Grant, PyCon Python Conference in Santa Clara, 2013
- **MLSS** Machine Learning Summer School Travel Grant × 2 in Purdue, 2011 and in Santa Cruz, 2012
- **WIML** Travel Grant × 2, Women in Machine Learning Workshop in Lake Tahoe, 2012 and in Montreal, 2015

– Last updated on August, 2021 –