# Alexandros Sigaras

Assistant Professor of Research in Physiology and Biophysics

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# **Research Interests**

My scientific focus is on building secure and Al driven high scalable computing solutions in the cloud for genomic analysis focused on healthcare and more specifically cancer care and cancer research. Furthermore, to visualize these complex big data entities, I am also interested in spatial computing, Mixed Reality, Virtual Reality and Augmented Reality as solutions to enable immersive asynchronous remote collaboration and data visualization of healthcare and genomic data.

# **Education**

December 2013 M.S. in Computer Science, Columbia University, Department of Computer

Science, Fu Foundation School of Engineering and Applied Science,

New York, NY, USA.

Track: Thesis Research Track

**GPA:** 3.851/4

Thesis: Surgical Structured Light for 3D Minimally Invasive Surgical Imaging

October 2011 B.S. in Informatics, *University of Piraeus*, Department of Informatics,

Piraeus, Greece.

**Track:** Information Systems Track

**GPA:** 8.5/10

Thesis: Self Adaptive Robotic Warehouse Management Systems with event

and location-based triggers

# **Experience**

Weill Cornell Medical College Assistant Professor of Research in Physiology and Biophysics, Assistant Professor of Research in Computational Biomedicine,

**Director, AI-XR Lab** 

April 2020 -Present Institute for Computational Biomedicine, Englander Institute for Precision Medicine

 Maintain, develop and manage efforts pertaining to the Laboratory for Artificial Intelligence and Extended Reality (AI/XR Lab) including leading the development of novel software applications in precision medicine.

- Lead the design and development of novel software solutions supporting the clinical and research activities at the Joint Clinical Genomics Initiative and at the Englander Institute for Precision Medicine.
- Oversee the design, development, and deployment of containerized solutions for the clinical genomics laboratory management system and data analysis, including QC/QA tools.
- Lead the efforts of large-scale genomic analysis in the cloud for both clinic and research activities; coordinate the development of artificial intelligence solutions to support the precision medicine knowledge base and the case review and sign out process.

Weill Cornell Medical College

Senior Research Associate in Computational Biomedicine, Institute for Computational Biomedicine, Englander Institute for Precision Medicine

May 2017 – April 2020

- Lead the design and development of novel software solutions supporting the clinical and research activities at the Joint Clinical Genomics Initiative and at the Englander Institute for Precision Medicine.
- Lead the development of the virtual and augmented reality program for precision medicine;
- Oversee the design, development, and deployment of containerized solutions for the clinical genomics laboratory management system and data analysis, including QC/QA tools
- Lead the efforts of large-scale genomic analysis in the cloud for both clinic and research activities; coordinate the development of artificial intelligence solutions to support the precision medicine knowledge base and the case review and sign out process.

Weill Cornell Medical College Research Associate in Computational Biomedicine, Institute for Computational Biomedicine, Englander Institute for Precision Medicine

April 2015 – May 2017

- Lead the search for new ways to leverage technology to advance precision medicine, including the use of Virtual Reality and Augmented Reality.
- Responsible for the design and implementation of the informatics infrastructure of the Englander Institute for Precision Medicine (EIPM), including the design and development of new tools to simplify user interaction with the laboratory information management system and the current IT infrastructure of WCM/NYP, collect and analyze user data and system performance within EIPM, and implement tools to report the results of the genomic analysis to the users via genomic portals.

Weill Cornell Medical College

# Programmer Analyst, Institute for Computational Biomedicine, Englander Institute for Precision Medicine

March 2014 – April 2015

Software Development Lead for all clinical and R&D activities of the Englander institution for Precision Medicine.

**Key Responsibilities:** Development of Next-Generation sequencing pipelines, LIS, cancer genomic portals and integrating genomic data to New York Presbyterian's HL7 infrastructure.

# Columbia University

### Research Assistant (graduate), Robotics Lab

### September 2012 – March 2014

- Project 1: Developed prototype on Surgical Structured Light for 3D minimally invasive surgical imaging.
- Project 2: Developed brain computer interfaces for robotic grasping for people with locked-in syndrome.

#### Microsoft

### **Internal Sales Education Specialist**

December 2011 – July 2012

Worked closely with universities and K-12 schools in Greece to provide cloud solutions and generally fulfill education institution needs in IT. Recipient of the Language Champion Award for the contribution to the Windows 8 International Review Program.

#### Microsoft

#### **Microsoft Student Partner**

November 2006 – December 2011 Member of Developers Platform Evangelists (DPE) group. Tasks included: administering the departmental Microsoft Developer Network Academic Alliance (MSDNAA) subscription, organizing technical presentations (for students) involving Microsoft products, advising students entering Microsoft's worldwide "Imagine Cup" programming contest, and setting up and moderating the studentguru.gr community website.

# **Honors and Awards**

November 2015	Nominee, Forbes 30 under 30 in the Science and Healthcare categories
July 2012	<b>Language Champion Award</b> for Contribution to the Windows 8 International Review Program
June 2012	<b>Fulbright Scholar,</b> U.S Department of State's Bureau of Educational and Cultural Affairs
June 2012	<b>Scholarship</b> (for M.S. studies), Harry D. Triantafillu Scholarship Fund Award, Institute of International Education
October 2011	Salutatorian, University of Piraeus, Department of Informatics
October 2011	Graduated <b>summa cum laude</b> , University of Piraeus, Department of Informatics
November 2010	Semi-Finalist, Imagine Cup IT Challenge, Microsoft
December 2009	Honorary Scholarship, Hellenic American University

December 2009 **2<sup>nd</sup> place winner**, Athens Startup Weekend 2

November 2008 **Semi-Finalist**, Imagine Cup IT Challenge, Microsoft

# **Teaching**

# **Teaching Assistant**

 Created and graded homework, midterms, and final exams; prepared project material and gave lectures (Numbers in parentheses indicate enrollment).

COMS W4733 Computational Aspects of Robotics, Columbia University

Instructor: Prof. Peter Allen, Fall 2013 (60)

# **Certifications**

December 2011 Udacity – Introduction to Artificial Intelligence - (top 10%)

October 2010 MCP, MCTS - 70-680: Microsoft Technology Specialist – Windows 7,

Configuration

June 2007 MCP, MCTS - 70-680: Microsoft Technology Specialist – Windows Vista,

Configuration

# **Publications**

#### **Journal Articles**

- [J.1] Khosravi P, Lysandrou M, Eljalby M, Brendel M, Li Q, Kazemi E, Barnes J, Zisimopoulos P, Sigaras A, Ricketts C, Meleshko D, Yat A, McClure T.D, Robinson B.D, Sboner A, Elemento O, Chughtai B, Hajirasouliha I. <u>Biopsy-free prediction of prostate cancer aggressiveness using deep learning and radiology imaging. medRxiv</u>. 2019 Jan 1. doi:10.1101/2019.12.16.19015057
- [J.2] Khosravi P, Kazemi E, Zhan Q, Malmsten JE, Toschi M, Zisimopoulos P, Sigaras A, Lavery S, Cooper LA, Hickman C, Meseguer M. <u>Deep learning enables robust assessment and selection of human blastocysts after in vitro fertilization.</u> NPJ digital medicine. 2019 Apr 4;2(1):1-9. doi:10.1038/s41746-019-0096-y
- [J.3] Sailer V, Eng KW, Zhang T, Bareja R, Pisapia D, Sigaras A, Bhinder B, Romanel A, Wilkes D, Sticca E, Cyrta C, Rao R, Sahota S, Pauli C, Beg S, Motanagh S, Kossai M, Fontunge J, Puca L, Rennert H, Xiang JZ, Greco N, Kim R, MacDonald TY, McNary T, Blattner-Johnson M, Schiffman MH, Faltas BM, Greenfield JP, Rickman D, Andreopoulou E, Holcomb K, Vahdat LT, Scherr DS, Koen van Besien, Barbieri CE, Robinson BD, Fine HA, Ocean AJ, Molina A, Shah MA, Nanus DM, Pan Q, Demichelis F, Tagawa ST, Song W, Mosquera JM, Sboner A, Rubin

- MA, Elemento O, and Beltran H <u>Integrative Molecular Analysis of Patients With Advanced and Metastatic Cancer</u>. *JCO Precision Oncology* 2019 :3, 1-12. doi:10.1200/PO.19.00047
- [J.4] Sailer V, Schiffman MH, Kossai M, Cyrta J, Beg S, Sullivan B, Pua BB, Lee KS, Talenfeld AD, Nanus DM, Tagawa ST, Robinson BD, Rao RA, Pauli C, Bareja R, Beltran LS, Sigaras A, Eng KW, Elemento O, Sboner A, Rubin MA, Beltran H, Mosquera JM. Bone biopsy protocol for advanced prostate cancer in the era of precision medicine. Cancer. 2018 Mar 1;124(5):1008-1015. doi: 10.1002/cncr.31173. Epub 2017 Dec 19.
- [J.5] Pisapia DJ, Salvatore S, Pauli C, Hissong E, Eng K, Prandi D, Sailer VW, Robinson BD, Park K, Cyrta J, Tagawa ST, Kossai M, Fontugne J, Kim R, Sigaras A, Rao R, Pancirer D, Faltas B, Bareja R, Molina AM, Nanus DM, Rajappa P, Souweidane MM, Greenfield J, Emde AK, Robine N, Elemento O, Sboner A, Demichelis F, Beltran H, Rubin MA, Mosquera JM. Next-Generation Rapid Autopsies Enable Tumor Evolution Tracking and Generation of Preclinical Models. JCO Precis Oncol. 2017;2017. doi: 10.1200/PO.16.00038. Epub 2017 Jun 14.
- [J.6] Bose R, Karthaus WR, Armenia J, Abida W, Iaquinta PJ, Zhang Z, Wongvipat J, Wasmuth EV, Shah N, Sullivan PS, Doran MG, Wang P, Patruno A, Zhao Y, Robinson D, Van Allen EM, Wu YM, Schultz N, Lonigro RJ, Mosquera JM, Montgomery B, Taplin ME, Pritchard CC, Attard G, Beltran H, Abida W, Bradley RK, Vinson J, Cao X, Vats P, Kunju LP, Hussain M, Tomlins SA, Cooney KA, Smith DC, Brennan C, Siddiqui J, Mehra R, Chen Y, Rathkopf DE, Morris MJ, Solomon SB, Durack JC, Reuter VE, Gopalan A, Gao J, Loda M, Lis RT, Bowden M, Balk SP, Gaviola G, Sougnez C, Gupta M, Yu EY, Mostaghel EA, Cheng HH, Mulcahy H, True LD, Plymate SR, Dvinge H, Ferraldeschi R, Flohr P, Miranda S, Zafeiriou Z, Tunariu N, Mateo J, Perez-Lopez R, Demichelis F, Robinson BD, Schiffman M, Nanus DM, Tagawa ST, Sigaras A, Eng KW, Elemento O, Sboner A, Heath EI, Scher HI, Pienta KJ, Kantoff P, de Bono JS, Rubin MA, Nelson PS, Garraway LA, Sawyers CL, Chinnaiyan AM, Zheng D, Schultz N, Sawyers CL. ERF mutations reveal a balance of ETS factors controlling prostate oncogenesis. Nature. 2017 Jun 29;546(7660):671-675. doi: 10.1038/nature22820. Epub 2017 Jun 14. PubMed PMID: 28614298; PubMed Central PMCID: PMC5576182.
- [J.7] Beltran H, Eng K, Mosquera JM, Sigaras A, Romanel A, Rennert H, Kossai M, Pauli C, Faltas B, Fontugne J, Park K, Banfelder J, Prandi D, Madhukar N, Zhang T, Padilla J, Greco N, McNary TJ, Herrscher E, Wilkes D, MacDonald TY, Xue H, Vacic V, Emde AK, Oschwald D, Tan AY, Chen Z, Collins C, Gleave ME, Wang Y, Chakravarty D, Schiffman M, Kim R, Campagne F, Robinson BD, Nanus DM, Tagawa ST, Xiang JZ, Smogorzewska A, Demichelis F, Rickman DS, Sboner A, Elemento O, Rubin MA. Whole-Exome Sequencing of Metastatic Cancer and Biomarkers of Treatment Response. JAMA Oncol. 2015 Jul;1(4):466-74. doi: 10.1001/jamaoncol.2015.1313.
- [J.8] Robinson D, Van Allen EM, Wu YM, Schultz N, Lonigro RJ, Mosquera JM, Montgomery B, Taplin ME, Pritchard CC, Attard G, Beltran H, Abida W, Bradley RK, Vinson J, Cao X, Vats P, Kunju LP, Hussain M, Feng FY, Tomlins SA, Cooney KA, Smith DC, Brennan C, Siddiqui J, Mehra R, Chen Y, Rathkopf DE, Morris MJ, Solomon SB, Durack JC, Reuter VE, Gopalan A, Gao J, Loda M, Lis RT, Bowden M, Balk SP, Gaviola G, Sougnez C, Gupta M, Yu EY, Mostaghel EA, Cheng HH, Mulcahy H, True LD, Plymate SR, Dvinge H, Ferraldeschi R, Flohr P, Miranda S, Zafeiriou Z, Tunariu N, Mateo J, Perez-Lopez R, Demichelis F, Robinson BD, Schiffman M, Nanus DM, Tagawa ST, Sigaras A, Eng KW, Elemento O, Sboner A, Heath EI, Scher HI, Pienta KJ, Kantoff P, de Bono JS, Rubin MA, Nelson PS, Garraway LA, Sawyers CL, Chinnaiyan AM. Integrative clinical genomics of advanced prostate cancer. Cell. 2015 May 21;161(5):1215-1228. doi: 10.1016/j.cell.2015.05.001.

# **Conference Proceedings**

[C.1] A Reiter, A Sigaras, D Fowler, PK Allen. Surgical Structured Light for 3D minimally invasive surgical imaging. Intelligent Robots and Systems (IROS 2014), 2014 IEEE/RSJ International Conference on. 2014 November 6, 1282 – 1287. doi: 10.1109/IROS.2014.6942722

## **Abstracts**

- [A.1] McIntire P, Ginter P, Eng KW, Lapolla D, Sigaras A, Beg S, Manohar J, Greco N, Zhang T, Bareja R, Sboner A, Elemento O, Andreopoulou E, Mosquera JM. Whole exome sequencing analysis of local/regional and distant metastatic breast carcinoma. USCAP 2020 Abstracts: Index of Abstract Authors. Mod Pathol 33, 2097–2136 (2020) doi:10.1038/s41379-020-0486-3
- [A.2] Sigaras A, Wilkes D, Hebding C, Martin LM, Bulaon D, Catalano J, Mosquera JM, Sternberg C, Loda M, Weinstein H, Song W, Elemento O, Sboner A. Mixed Reality for a Precision Medicine Laboratory: The Future Is Now!. In JOURNAL OF MOLECULAR DIAGNOSTICS 2019 Nov 1 (Vol. 21, No. 6, pp. 1172-1172). doi:10.1016/S1525-1578(19)30391-5
- [A.3] Uppal M, **Sigaras A**, Zisimopoulos P, Tang J, Sternberg C.N, Song W, David Pisapia D, Rennert H, Sboner A. <u>A crowdsourcing approach for high-quality interpretation of cancer variants</u> *ICGC 15th Scientific Workshop and 2nd ARGO Meeting* May 28 2019
- [A.4] **Sigaras A**, Eng KW, Sticca E, Ramazanoglu S, Parmar S, Aljaludi A, Israel M, Artz D, Leslin C, D'Agoustine J, Cheang G. <u>Integrating Clinical Genomics into Electronic Health Records to Foster Precision Medicine</u>. *In JOURNAL OF MOLECULAR DIAGNOSTICS* 2018 Nov 1 (Vol. 20, No. 6, pp. 965-965). doi:10.1016/S1525-1578(18)30401-X
- [A.5] J Gao, T Mazor, E Ciftci, P Raman, P Lukasse, I Bahceci, A Sigaras, A Abeshouse, I de Bruijn, B Gross, R Kundra, A Lisman, A Ochoa, R Sheridan, J Su, S O. Sumer, Y Sun, A Wang, J Wang, M Wilson, H Zhang, P Kumari, J Lindsay, K Kalletla, K Zhu, O Plantalech, F Schaeffer, S Tan, D Zaal, S van Hagen, K van Bochove, U Dogrusoz, T Pugh, A Resnick, C Sander, N Schultz, E Cerami Abstract 923: The cBioPortal for Cancer Genomics: An intuitive opensource platform for exploration, analysis and visualization of cancer genomics data. Proceedings: AACR Annual Meeting 2018, Volume 78, Issue 13, April 14-18, 2018; Chicago, IL, doi: 10.1158/1538-7445.AM2018-923
- [A.6] J Catalano, G Cheang, D Pancirer, E Merzier, Y Li, H Tran, A Sigaras. 331 The Development of a Custom LIMS: An Introduction and Guide to Successful Implmentation. American Journal of Clinical Pathology, Volume 149, Issue suppl\_1, 11 January 2018, Pages S142–S143, doi: 10.1093/ajcp/aqx127.330
- [A.7] H Beltran, K Eng, J Mosquera, A Sigaras, A Romanel, H Rennert, M Kossai, C Pauli, B Faltas, J Fontugne, B Robinson, D Nanus, S Tagawa, J Xiang, F Demichelis, D Rickman, A Sboner, O Elemento and M Rubin. Precision cancer medicine program for whole-exome sequencing of metastatic tumors reveals biomarkers of response. Cancer Research, Volume 75, Issue 15, 1 August 2015, Page 4745 doi: 0.1158/1538-7445.AM2015-4745

# **Posters**

- [P.1] McIntire P, Ginter P, Eng KW, Lapolla D, Sigaras A, Beg S, Manohar J, Greco N, Zhang T, Bareja R, Sboner A, Elemento O, Andreopoulou E, Mosquera JM. Whole exome sequencing analysis of local/regional and distant metastatic breast carcinoma. USCAP 2020 Annual Meeting, 3 March 2020
- [P.2] Sigaras A, Wilkes D, Hebding C, Martin LM, Bulaon D, Catalano J, Mosquera JM, Sternberg C, Loda M, Weinstein H, Song W, Elemento O, Sboner A. <u>Mixed Reality for a Precision Medicine Laboratory: The Future Is Now!</u>. *AMP 2019 Annual Meeting & Expo*, 9 November 2019
- [P.3] Uppal M, **Sigaras A**, Zisimopoulos P, Tang J, Sternberg C.N, Song W, David Pisapia D, Rennert H, Sboner A. <u>A crowdsourcing approach for high-quality interpretation of cancer variants</u> *ICGC 15th Scientific Workshop and 2nd ARGO Meeting* May 28 2019
- [P.4] A Sigaras, K Eng, E Sticca, S Ramazanoglu, S Parmar, A Aljaludi, M Israel, D Artz, C Leslin, J D'Augustine, G Cheang, D Pancirer, J Tang, P Zisimopoulos, M Rubin, W Tam, M Kluk, H Rennert, J Catalano, R Kim, H Beltran, O Elemento, W Song, A Sboner. <u>Integrating Clinical Genomics into Electronic Health Records to Foster Precision Medicine</u>. *AMP 2018 Annual Meeting & Expo*, 2 November 2018
- [P.5] A Sigaras, S Roshal, A Sboner, M Rubin, O Elemento. <u>Healthcare Applications for Immersive Remote Collaboration of 3D Medical Data using Virtual and Mixed Reality.</u> **2017 Startup Symposium**, Weill Cornell Medicine, 26 January 2017
- [P.6] E Vinolo, D Alférez, F Amant, D Annibali, J Arribas, M Bentires-Alj, C Bernadó, A Bertotti, A Biankin, A Bruna, E Budinská, A Byrne, C Caldas, O Casanovas, D K. Chang, R B. Clarke, S Corso, G Coukos, V Dangles-Marie, D Decaudin, J Depreeuw, Z Dudová, O Elemento, S Giordano, E Gonzalez-Suarez, H Hafsi, E Hermans, M Hidalgo, G Inghirami, M Jarzabek, S de Jong, J Jonkers, K Kemper, A Křenek, M Kuba, L Lanfrancone, P López Casas, G Mælandsmo, E Marangoni, E Medico, I Miller, K Moran-Jones, B Morancho, F Nematti, J Henrik Norum, H Palmer, D Peeper, P Pelicci, A Piris-Giménez, M Pujana, S Roman, O Rueda, J Seoane, V Serra, A Sigaras, L Soucek, S Tejpar, M Tomas, L Trusolino, A van der Zee, M van de Ven; D Vanhecke, A Villanueva, B Wisman. <a href="https://doi.org/10.1001/jher.2016/">The EurOPDX Workshop</a>, Switzerland, 3 October 2016
- [P.7] A Reiter, **A Sigaras** and P Allen. <u>Surgical Structured Light (SSL) for Real-Time Minimally-Invasive 3D Imaging</u>. *John Jones Symposium, Columbia University*, 10 May 2013

# **Reviewing Activities**

### **Journals**

Review Editor for Virtual Reality in Medicine - Journal of Frontiers in Virtual Reality

# **Talks, Lectures**

# **Invited Talks**

02/14/2020	Al and Mixed Reality in Precision Medicine 2nd Biomedical Big Data Symposium New York City College of Technology, City University of New York
01/31/2020	Mixed Reality in Precision Medicine NYU Tandon School of Engineering, New York, NY
10/28/2019 – 10/29/2019	Digital Technologies for Clinical Care – Panelist Artificial Intelligence for Cancer – Discussion Leader Precision Medicine Research Symposium Cornell Tech and Weill Cornell Medicine, New York, NY
10/25/2019 – 10/26/2019	XR in Healthcare R Lab Master Class 2019
06/05/2019	XR in Medicine in the era of Precision Medicine R Lab Well 2019
06/19/2019	Big Data Visualization and Spatial Computing in Precision Medicine Biomedical Big Data Summer Bootcamp 2019 Weill Cornell Medicine
02/15/2019	Big Data in Precision Medicine  1st Biomedical Big Data Symposium  New York City College of Technology, City University of New York
06/20/2018	Big Data Visualization - Mixed Reality, Virtual Reality and Augmented Reality Biomedical Big Data Summer Bootcamp 2018 Weill Cornell Medicine
01/11/2017	How HoloLens transforms Healthcare Microsoft Reactor, Grand Central Tech, NY
11/21/2008	Introduction to Robotics with MS Robotics Studio Microsoft, Athens, Greece
01/29/2008	Robotics Warehouse Project Selected presentation/talk to the Chairman of Microsoft, Bill Gates and Kostas Karamanlis, Prime Minister of Greece at the inaugural opening of the Microsoft Innovation Center in Greece Microsoft Innovation Center, Greece
12/17/2007	Introduction to Robotics with MS Robotics Studio and LEGO Mindstorms NXT IEEE hosted event

#### **Guest Lectures**

11/21/2019 **Mixed Reality in Precision Medicine** Virtual and Augmented Reality, Cornell Tech Host: Prof. Harald Haraldsson 12/2/2015 **Precision Medicine** Bioinformatics II, New York City College of Technology, City University of New Host: Prof. Evgenia Giannopoulou 11/24/2011 Intro to Programming in C++ and C# Introduction to Programming, University of Piraeus, Greece Host: Prof. Ioannis-Christos Panagiotopoulos 12/16/2010 **Introduction to Expression Blend** Human Computer Interaction, University of Piraeus, Greece Host: Prof. Maria Virvou Introduction to Sketchflow 12/09/2010 E-learning, University of Piraeus, Greece

# **Selected Press and Media Coverage**

Host: Prof. Symeon Retalis

07/15/2019	CNN, Would you trust an algorithm to diagnose an illness? <a href="https://www.cnn.com/2019/07/15/business/artificial-intelligence-healthcare/index.html">https://www.cnn.com/2019/07/15/business/artificial-intelligence-healthcare/index.html</a>
04/24/2019	NYP - Health Matters, Behind the Latest Advance in IVF Treatment <a href="https://healthmatters.nyp.org/behind-the-latest-advance-in-ivf-treatment/">https://healthmatters.nyp.org/behind-the-latest-advance-in-ivf-treatment/</a>
04/11/2019	Cornell Chronicle, Researchers test using AI to optimize IVF embryo selection <a href="https://news.cornell.edu/stories/2019/04/researchers-test-using-ai-optimize-ivf-embryo-selection">https://news.cornell.edu/stories/2019/04/researchers-test-using-ai-optimize-ivf-embryo-selection</a>
04/05/2019	Wired, AI Could Scan IVF Embryos to Help Make Babies More Quickly <a href="https://www.wired.com/story/ai-could-scan-ivf-embryos-to-help-make-babies-more-quickly/">https://www.wired.com/story/ai-could-scan-ivf-embryos-to-help-make-babies-more-quickly/</a>
04/05/2019	Al in Healthcare, Al optimizes embryo selection for IVF <a href="https://www.aiin.healthcare/topics/imaging/ai-optimizes-embryo-selection-ivf">https://www.aiin.healthcare/topics/imaging/ai-optimizes-embryo-selection-ivf</a>
04/04/2019	Wall Street Journal, IVF Often Doesn't Work. Could an Algorithm Help? <a href="https://www.wsj.com/articles/ivf-often-doesnt-work-could-an-algorithm-help-11554386243">https://www.wsj.com/articles/ivf-often-doesnt-work-could-an-algorithm-help-11554386243</a>

04/04/2019	Weill Cornell News, Artificial Intelligence Approach Optimizes Embryo Selection for IVF <a href="https://news.weill.cornell.edu/news/2019/04/artificial-intelligence-approach-optimizes-embryo-selection-for-ivf">https://news.weill.cornell.edu/news/2019/04/artificial-intelligence-approach-optimizes-embryo-selection-for-ivf</a>
04/04/2019	Science Daily, Artificial intelligence approach optimizes embryo selection for IVF <a href="https://www.sciencedaily.com/releases/2019/04/190404161003.htm">https://www.sciencedaily.com/releases/2019/04/190404161003.htm</a>
03/09/2018	Microsoft Developer Blog, Voronoi Selection for Cancer Drug Network Visualization in Mixed Reality <a href="https://www.microsoft.com/developerblog/2018/03/09/voronoi-selection-cancer-drug-network-visualization-mixed-reality/">https://www.microsoft.com/developerblog/2018/03/09/voronoi-selection-cancer-drug-network-visualization-mixed-reality/</a>
10/17/2017	Channel 9, Behind the Scenes: How Weill Cornell Medicine built a chatbot for clinicians to gain fast access to medical data <a href="https://channel9.msdn.com/Blogs/DevRadio/DR1747">https://channel9.msdn.com/Blogs/DevRadio/DR1747</a>
09/13/2017	Microsoft Windows Blogs, Making mixed reality: a conversation with Alexandros Sigaras and Sophia Roshal <a href="https://blogs.windows.com/windowsexperience/2017/09/13/making-mixed-reality-conversation-alexandros-sigaras-sophia-roshal/#B0hV1JuJsZolfG2Q.97">https://blogs.windows.com/windowsexperience/2017/09/13/making-mixed-reality-conversation-alexandros-sigaras-sophia-roshal/#B0hV1JuJsZolfG2Q.97</a>
06/15/2017	Microsoft Technical Case Studies, Bot gives Weill Cornell clinicians fast access to medical data <a href="https://microsoft.github.io/techcasestudies/bot%20framework/2017/06/15/WeillCornell.html">https://microsoft.github.io/techcasestudies/bot%20framework/2017/06/15/WeillCornell.html</a>
06/14/2017	<b>The Sociable</b> , How Mixed Reality is Transforming Collaborative Cancer Research <a href="https://sociable.co/technology/mixed-reality-cancer/">https://sociable.co/technology/mixed-reality-cancer/</a>
03/26/2017	Arirang, Special Documentary Smart with Heart <a href="https://www.youtube.com/watch?v=gHa4ddmdCUU">https://www.youtube.com/watch?v=gHa4ddmdCUU</a>
Winter 2016	Weill Cornell Medicine Magazine, Volume 15, Number 3, Virtual Vision – 3D technology could offer a potent weapon in cancer care <a href="http://www.weillcornellmedicine-digital.com/weillcornellmedicine/vol_15_no_3?pg=20#pg20">http://www.weillcornellmedicine/vol_15_no_3?pg=20#pg20</a>
01/27/2016	ABC7 Eyewitness News, New 3D goggles help doctors search for mutations in cancerous tumors <a href="http://abc7ny.com/health/new-3d-goggles-help-doctors-search-for-mutations-in-cancerous-tumors/1176716/">http://abc7ny.com/health/new-3d-goggles-help-doctors-search-for-mutations-in-cancerous-tumors/1176716/</a>
07/15/2016	Weill Cornell News, Researchers are Using Virtual Reality to Help Treat Cancer <a href="https://weillcornell.org/news/researchers-are-using-virtual-reality-to-help-treat-cance">https://weillcornell.org/news/researchers-are-using-virtual-reality-to-help-treat-cance</a>
07/13/2016	CBS New York, Seen At 11: Doctors Using Virtual Reality To Treat Cancer Patients <a href="http://newyork.cbslocal.com/2016/07/13/virtual-reality-cancer-patients/">http://newyork.cbslocal.com/2016/07/13/virtual-reality-cancer-patients/</a>
02/24/2016	Popular Science, Here's How Virtual Reality Could Help Doctors Treat Cancer <a href="https://www.popsci.com/how-virtual-reality-could-help-doctors-treat-cancer">https://www.popsci.com/how-virtual-reality-could-help-doctors-treat-cancer</a>

05/21/2015 **Science Daily**, Scientists unveil prostate cancer's 'Rosetta Stone' <a href="https://www.sciencedaily.com/releases/2015/05/150521133732.htm">https://www.sciencedaily.com/releases/2015/05/150521133732.htm</a>