Artem Dementyev

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EDUCATION

Massachusetts Institute of Technology, Cambridge, Massachusetts, USA

Doctor of Philosophy (Ph.D.) in Media Arts and Sciences   Sep 2013 – Jul 2018
- Adviser: Professor Joseph Paradiso
- Research areas: Sensor networks, human computer interactions, robotics.

University of Washington, Seattle, Washington, USA

Master of Science (M.S.) in Electrical Engineering   Sep 2011 – Aug 2013
- Adviser: Professor Joshua R. Smith
- Thesis: Applications of RF-powered computing systems: wearable EEG monitor and bistable display tag

University of Maryland, College Park, Maryland, USA

Bachelor of Science (B.S.) in Bioengineering   Sep 2006 – Jul 2009

EMPLOYMENT

Media Lab, Massachusetts Institute of Technology

Graduate Research Assistant   Sep 2013 – Present
- Advisor: Professor Joseph A. Paradiso

Google X, Mountain View, CA

Intern   Aug 2018 – Dec 2018
- Supervisor: Alex Olwal

Microsoft Research, Redmond, WA

Research Intern   Jun 2016 – Sep 2016
- Supervisor: Christian Holz

Sensor Systems Lab, University of Washington

Graduate Research Assistant   Sep 2012 – Sep 2013
- Developed a battery-free EEG recording system, powered by UHF RFID
- Worked on wirelessly powered bistable displays
- Advisor: Professor Joshua R. Smith

Microsoft Research, Cambirdge, UK

Intern   Jun 2012 – Aug 2012
- Supervisors: Dr. Steve Hodges, Stuart Taylor
- Prototyped input devices for mobile phones and researched the efficiency of wireless protocols.

National Institute of Biomedical Imaging and Bioengineering (NIBIB) , NIH

Postbaccalaureate Research Fellow   Sep 2009 – Sep 2011
- Supervisors: Dr. Alexander Gorbach
- Designed miniature wireless sensors for real time data display, storage, transmission for long-term skin and ambient temperature.
- Conducted clinical research in non-invasive imaging, and did data analysis by applying digital signal processing, and medical statistics.

AWARDS

- YouFab Finalist, Chainform   2017
- UIST Best Paper Award (top 1%)   2016
- CHI Honorable Mention Award (top 5%)   2015
- UbiComp Honorable Mention Award (top 5%)   2013
- NSF Graduate Research Fellowship,   2012
- NIH Outstanding Post-Baccalaureate IRTA Award.   2011

TEACHING

Mentor/co-organizer,
- MIT Research at Scale Course,   2016,2017,2018

Teaching Assistant , MIT
- MAS.500: Intro to Applied Machine Learning Module   2014
- MAS.S63: Silicon Menagerie: From Bioinspiration to Biomimetics,   2014
- MAS.836: Sensor Systems for Interactive Environments,   2015, 2016, 2017

Teaching Assistant , University of Washington
- EE399: Design of Digital Circuits and Systems,   2012
- EE542: Advanced Embedded Systems Design,   2013
- EE447: Control Systems Analysis,   2011

ADVISING

MIT UNDERGRADUATE RESEARCHERS.
- **Viktor Urvantsev**, SkinBot localization,   2018
- **Rianna Jitosho**, Soft Robotics,   2018
- **Mairead Solvang**, SkinBot localization,   2018
- **Justina R Yang**, Rovables mechanics,   2017
- **Diana Lamaute**, Rovables electronics,   2016
- **Lucas Santana**, Rovables localization,   2016
- **Kyle Joba-Woodruff**, ChainForm electronics,   2016

JOURNAL PUBLICATIONS

[1] **A. Dementyev**, J. Hernandez, I. Choi, S. Follmer, J. Paradiso, "Epidermal Robots: Wearable Sensors That Climb On The Skin" in *Proc. of IMWUT'18* (To appear)

[2] **A. Dementyev**, C. Holz, "DualBlink: A Wearable Device to Continuously Detect, Track, and Actuate Blinking For Alleviating Dry Eyes and Computer Vision Syndrome" in *Proc. of IMWUT'17*

[3] K. Nakagaki, S. Follmer, **A. Dementyev**, J. Paradiso, H. Ishii, "Designing Line-Based Shape-Changing Interfaces" in *Proc. of Pervasive Computing'17*

CONFERENCE PUBLICATIONS

[1] **A. Dementyev**, J. Qi, J. Ou, J. Paradiso, "Mass Manufacturing of Self-Actuating Robots: Integrating Sensors and Actuators using Flexible Electronics" in *Proc. of IROS'18* (To appear)

[2] J. Amores, J. Hernandez, **A. Dementyev**, X. Wang, P Maes, "BioEssence: A Wearable Olfactory Display That Monitors Cardio-Respiratory Information to Support Mental Wellbeing" in *Proc. of EMBC'18*

[3] C. Kao, D. Ajilo, O. Anilionyte, **A. Dementyev**, I. Choi, S. Follmer, C. Schmandt, "Exploring Interactions and Perceptions of Kinetic Wearables" in *Proc. of DIS'17*

[4] **A. Dementyev**, C. Kao, I. Choi, D. Ajilo, M. Xu, J. Paradiso, C. Schmandt, S. Follmer, "Rovables: Miniature on-body robots as mobile wearables" in *Proc. of UIST'16* **Best Paper Award**

[5] K. Nakagaki, **A. Dementyev**, S. Follmer, J. Paradiso, H. Ishii, "Chainform: A linear integrated modular hardware system for shape changing interfaces" in *Proc. of UIST'16*

[6] **A. Dementyev**, C. Kao, and J. Paradiso, "SensorTape: Modular and Programmable 3D-Aware Dense Sensor Network on a Tape," in *Proc. of UIST'15*

[7] N. Zhao, G. Dublon, N. Gillian, **A. Dementyev**, J. Paradiso, "EMI Spy: Harnessing electromagnetic interference for low-cost, rapid prototyping of proxemic interaction," in *Proc. of BSN'15*

[8] C. Kao, **A. Dementyev**, J. Paradiso, and C. Schmandt "NailO: Fingernails as an Input Surface," in *Proc. of CHI'15* **Honorable Mention Award**

[9] **A. Dementyev**,and J. Paradiso, "WristFlex: Low-power gesture input with wrist-worn pressure sensors," in *Proc. of UIST'14*

[10] **A. Dementyev**, J. Gummeson, D. Thrasher, A. Parks, D. Ganesan, J. R Smith, A. P Sample "Wirelessly powered bistable display tags" in *Proc. of Ubicomp'13* **Honorable Mention Award**

[11] **A. Dementyev**, and J. R Smith, "A Wearable UHF RFID-Based EEG System" in *Proc. of RFID'13*

[12] **A. Dementyev**, S Hodges, S Taylor, and J. R Smith, "Power Consumption Analysis of Bluetooth Low Energy, ZigBee and ANT Sensor Nodes in a Cyclic Sleep Scenario" in *Proc. of IEEE IWS'13*

[13] **A. Dementyev**, A. Behnaz, and A.M. Gorbach, "135-Hour-Battery-Life Skin Temperature Monitoring System Using a Bluetooth Cellular Phone" in *Proc. of IEEE BioWireless'13*

PATENTS

[1] M. Aziz, L. Considine, A. Dementyev, N. Olivares, A. Adekoya, J. Rustag, "Quick-release self-contained medical electrode", *U.S. patent. US20130172724, 2013.*

SELECTED PRESS COVERAGE	**Design News**, 'Hacking Manufacturing' MIT Course Opens Manufacturing Techniques,	2018
	MIT News, Hacking in a Factory,	2018
	Creative Applications, Media Lab Hacking Manufacturing,	2018
	Hardware News, Life hack for manufacturing: MIT studies Chinese factories,	2018
	The Verge, MIT's new 'living' jewelry are creepy robot beetles for your clothes,	2017
	Tech Crunch, MIT's 'living jewelry' is made up of small robot assistants,	2017
	Curiosity, Project Kino Is "Living" Jewelry That Moves Around Your Body Like An Insect,	2017
	Adafruit, MIT's Project Kino – Robots Roaming on Clothing #WearableWednesday,	2017
	HAck'a'Day, Project Kino: robotic jewelry and tech accesory	2017
	Digital Trends, MIT's ChainFORM robot transforms into anything from stylus to gaming joystick, 2016	
	Mental Floss, Snake-Like Robot from MIT Is Flexible, Customizable,	2016
	IEEE Spectrum, MIT's Modular Robotic Chain Is Whatever You Want It to Be,	2016
	Fast Company, MIT's Weird Snake Bot Is Now Modular And Expandable,	2016
	Recode, These tiny, wearable robots can cling to your clothes and drive around your body,	2016
	The New Stack, Rovables Are Tiny Multipurpose Bots That Crawl on Your Clothes,	2016
	Seeker, Mini Wearable Robots Will Crawl Over Your Body,	2016
	Wired, The Lingo that'll save your next coctail party, from 'Rovables' TO 'Manthreading',	2016
	Digital Trends, Cute wearable robots will crawl all over your body to do your bidding,	2016
	How Stuff Works, Rovables: Tiny Robots That Roll on Your Clothes All Day,	2016
	Medium, Rovables are tiny wearable robots that can roam around your body,	2016
	Inverse, MIT and Stanford Researchers Just Debuted a Tiny Helper Robot,	2016
	Robot Globe, Rovables: Wearable Mini Mobile Robots,	2016
	Popular Science, Tiny Fabric-Clinging Robots Are A Fashion Statement,	2016
	New Scientist, Roaming fashion robots keep busy doing odd jobs on your clothes,	2016
	EnGadget, Tiny body-roaming robots could be the future of wearables,	2016
	Robotic Gizmos Rovables: Mini Robots That Move On Your Clothes,	2016
	DailyDot Tiny robots could become the ultimate wearable of the future,	2016
	Fast Company, MIT Has Invented The Crazy, Sensor-Loaded Duct Tape Of The Future,	2016
	Creative Applications, SensorTape – 3D-aware dense sensor network on a roll of tape,	2016
	Digital TrendsMIT's new sensor-loaded duct tape makes DIY electronics a snap,	2016
	Popular MechanicsMIT's Sensor-Laden Masking Tape Gives You Computer By the Foot,	2016
	CNET NailO turns your fingernail into a tiny trackpad,	2015
	Bustle NailO Is A Nail Sticker That Lets You Use Your Phone Or Computer Wirelessly, Without Touching It,	2015
	Digital Trends This amazing gadget turns your thumbnail into a tiny trackpad to control your phone, 2015	
	The Verge Using this thumbnail trackpad is like playing the world's smallest violin,	2015
	DailyMail UK Control your phone with a flick of your fingernail: Researchers reveal tiny trackpad that can be stuck to a thumbnail,	2015
	WiredThis adorable thumbnail trackpad could actually be useful,	2015
	New Atlas NailO puts a wireless trackpad on your thumbnail,	2015
	Phys.org,E-paper display powered by NFC from smartphone,	2013
	Weekly.com, NFC wirelessly powers bistable ePaper,	2013
	Pocket-lint, NFC-powered companion E Ink display demonstrated,	2013
	NFC-World, Researchers demonstrate e-ink display powered by NFC,	2013
	Tech Briefs, Pixelated E-Paper Display Powered & Updated Wirelessly,	2013

TALKS	**Shenzhen Design Society Sharing Session**, "Hacking Manufacturing"	April 2018
	Hong Kong Design Trust Public Lecture,"Hacking Manufacturing"	August 2017
	Hong Kong Citizen Science Fair,"Research Overview", Hong Kong	August 2017
	MIT Sidney Pacific Graduate Symposium, "Rovables",	March 2017
	Hasso-Plattner-Institut Research Talk, "Research Overview"	February 2016
	TU Berlin Research Talk, "Research Overview"	Feburary 2016
	MIT Museum Living in the Future Series, "NailO"	September 2015

PROFESSIONAL AFFILIATIONS & ACTIVITIES	**Reviewer**

Reviewer
- CHI   2015, 2016, 2017, 2018
- UIST   2016, 2017, 2018
- Augmented Human   2015, 2016
- DIS   2016

EXHIBITIONS

Radical Atoms Exhibition, "Rovables", Ars Electronica Museum, Linz, Austria,   2016
Machine Experience II, "Bluetooth Morph", Rainbow Unicorn, Berlin, Germany   2018

OTHER WORK EXPERIENCE

MIT Manufacturing Bootcamp, Shenzhen, China
Student   Jun 2015 – Jul 2015
- Learned about mass manufacturing of hardware under supervision of bunnie (Andrew) Huang.

Human Biosciences Inc, Gaithersburg, MD
Intern   Jun 2009 – Sep 2009
- Programmed and repaired electrical systems of production equipment, for manufacture of collagen based medical wound dressings.

Food and Drug Administration (FDA), , College Park, MD
Intern   Jan 2007 – Jan 2008
- Determined whether products such as canned soup and sauces were free of harmful microorganisms.

LANGUAGES

Russian: Native language.
English: Fluent (speaking, reading, writing).

SKILLS

- **CAD Software**: SolidWorks, Rhino3D
- **Circuit Design**: Altium, Eagle, Cadence
- **Computing software**: MATLAB
- **Programming Languages**: C, C++, C#, Java

REFERENCES

Upon request

[CV compiled on 2018-07-14]