

C u r r i c u l u m V i t a e

Rafał Kocielnik

PERSONAL DETAILS

Place of birth: Warsaw, Poland
Place of residence: Seattle, WA
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Publications: [Google Scholar link](#)

PROFESSIONAL INTERESTS

I am interested in building and studying intelligent adaptive systems specifically for behavior change applications in physical activity and workspace productivity. I believe that we live in an exciting time when machine learning has matured enough to be used in end-user applications, requiring us to rethink some of the ways we design user interactions. My knowledge and experiences in UX, CS, ML, Design and Physical Computing can be helpful in effectively connecting these, often disparate, domains.

SKILLS

Data Science Statistical Analysis, ML and NLP, R, Pandas, Jupyter Notebook, Scikit-learn
Programming Python, PHP, JavaScript, Java, C++
UX & Design Design in Photoshop, Illustrator; Interviewing, Observations, Workshops
Physical Computing Arduino, Raspberry PI, MS Kinect, Motion sensors, XBee, Wearable sensors

PROFESSIONAL EXPERIENCE

- 06.2018 – 09.2018 **Research & Development Intern**
Microsoft Research AI, Adaptive Systems and Interaction Group, Redmond – worked on shaping end-user expectations around imperfections of AI powered systems. Designed three interventions aimed at increasing user satisfaction and acceptance of an imperfect AI system: 1) Accuracy Indicator, 2) Examples based Explanation, and 3) Control Slider. Implemented these interventions on top of an AI-powered system for automated detection of meeting requests in text of emails. Then tested the effectiveness of the interventions in controlled experiments with 150 and 400 participants using internal crowd-sourcing platform. The internship resulted in a CHI 2019 paper as well as in implementation using React JS, Fabric UI and Natural Language Understanding component (LUIS cloud service).
- 06.2017 – 09.2017 **Research & Development Intern**
Fuji-Xerox Palo Alto Lab – worked on design, deployment and evaluation of a mixed-modality conversational agent called “Robota” (polish for “work”). Robota interacts with users through Slack using text, or through Alexa Skill using voice. We have deployed Robota in a 3-week long study with company employees. During the study, Robota encouraged users to journal their everyday activities and delivered self-learning prompts on aspects of professional development. The self-learning interaction happened through voice or text. We learned the specific value of self-learning at work as well as benefits and challenges of using voice and text for interaction in this setting. The internship resulted in a patent as well as DIS 2018 and CHI 2018 papers.
- 06.2016 – 09.2016 **Research & Development Intern**
Microsoft Research FUSE Labs, Redmond - worked closely in a team of developers, researchers and designers on an applied research project

- developing conversational AI for meeting scheduling. The project involved applying technologies such as crowd-sourcing, bots and NLP in production-quality software. The internship resulted in 2 patent applications, a CHI 2017 paper, and an implementation in C# and Azure Cloud that went to production.
- 10.2014 – present **Graduate Research Assistant**
Human Centered Design & Engineering, University of Washington - currently working on 3 research projects: 1) exploring the design and value of conversational agents for reflection in Personal Informatics systems; 2) alleviating the annoyance and boredom from repeated message exposure: designing engaging behavior change triggers; 3) sensor based physical-space analytics for local businesses with a goal of helping local business owners understand behavior of their clients.
- 10.2011 – 10.2014 **Researcher**
Philips Research, EIT ICT Labs – projects related to stress management, burnout prevention, and on-line exercise recommendations. Achievements: 1) designed and developed a stress coaching application used in schools and companies in the Netherlands; 2) developed an on-line recommender service for an on-line exercise platform; 3) carried out field experiments with external clients; 4) developed a published signal processing algorithm for stress level estimation from sensor data; 5) wrote reports that secured an increasing financing for the project for more than 3 years.
- 01.2011 – 10.2011 **Research & Development Intern**
Philips Research, EIT ICT Labs – pilot project for stress management at work: Stress@Work. Achievements: 1) designed and executed a two month field trial using Philips Research prototype measurement device; 2) created a concept and designed an application for stress management at work; 3) developed and evaluated a demo version of this application.
- 05.2010 – 12.2010 **Design Researcher**
Industrial Design, Biomedical Engineering TU/e – Achievements: 1) connected a medical research application with a 3D optical tracker to enable tangible manipulation of visualization of brain white matter data; 2) evaluated the tangible prototype with medical professionals.
- 02.2009 – 09.2009 **IT consultant**
Technical agency in Warsaw, Poland – Responsibilities: 1) maintenance of computer equipment; 2) development of short quick-fix programs; 3) setting up a network infrastructure; 4) providing help with solving usability problems
- 07.2005 – 09.2005 **Developer**
Insipiens in Warsaw, Poland – Achievements: developed a media content management system for use across multiple company machines.

EDUCATION

- 09.2014 – present **PhD student**
Human Centered Design & Engineering (HCDE) - University of Washington Seattle, USA
 Building Conversational AI for Health Behavior Change, Learning and Workspace Productivity. Combining Crowd-Sourcing and ML in building adaptive conversational assistants for supporting long term interactions.
- 10.2009 – 10.2011 **Professional Doctorate in Engineering (PDEng)**
User System Interaction - Eindhoven University of Technology (TU/e) Eindhoven, The Netherlands
 Stress Measurement and Management using Wearable Sensors and Visual Analytics Tools, Tangible Interaction in Medical Domain.
- 10.2006 – 11.2008 **M.Sc. in Computer Science**
Affective Computing - Polish-Japanese Institute of Information Technology, Warsaw, Poland
 Anthropometric Facial Emotion Recognition using Computer Vision, Machine Learning and Anthropometric Face Properties.

10.2003 – 10.2006 **B.Sc. in Computer Science**
Game Programming - Polish-Japanese Institute of Information Technology
Warsaw, Poland
Building 3D Game engine in DirectX, GPU coding and 3D Studio Max

PEER-REVIEWED PUBLICATIONS

- 2019 Kocielnik, R., Amershi, S., Bennett, P., *Will You Accept an Imperfect AI? Exploring Designs for Adjusting End-user Expectations of AI-powered Systems*, CHI 2019 (Acceptance rate: 24%)
- 2018 Kocielnik, R., Keyes, O., Morgan T.J., Taraborelli D., McDonald D., Hsieh G., *Reciprocity and Donations: How Article Topic, Quality and Dwell Time Predict Banner Donation on Wikipedia*, CSCW 2018 (Acceptance rate: ~30%)
- 2018 Kocielnik, R., Xiao, L., Avrahami, D., Hsieh, G. *Reflection Companion: A Conversational System for Engaging Users in Reflection on Physical Activity*, IMWUT 2018 (Acceptance Rate: 28%)
- 2018 Kocielnik, R., Avrahami, D., Marlow, J., Lu, D., Hsieh, G. *Designing for Workplace Reflection: A Chat and Voice-Based Conversational Agent*, DIS 2018. (Acceptance rate: 23%)
- 2018 Karkar, R., Kocielnik, R., Zhang, X., Zia, J., Ioannou, G., Munson, S., Fogarty, J. *Beacon: Designing a Portable Device for Self-Administering a Measure of Critical Flicker Frequency*, IMWUT 2018 (Acceptance Rate: 28%)
- 2018 Chen, NC., Drouhard, M., Kocielnik, R., Suh, J., Aragon, C. *Using Machine Learning to Support Qualitative Coding in Social Science: Shifting the Focus to Ambiguity*, ACM Transactions on Interactive Intelligent Systems. (Acceptance rate: 24%)
- 2018 Lu, D., Marlow, J., Kocielnik, R., Avrahami, D. *Challenges and Opportunities for Technology-Supported Activity Reporting in the Workplace*, CHI 2018. (Acceptance rate: 26%)
- 2017 Cranshaw, J., Elwany, E., Newman, T., Kocielnik, R., Yu, B., Soni, S., ... & Monroy-Hernández, A. *Calendar. help: Designing a Workflow-Based Scheduling Agent with Humans in the Loop*, CHI 2017 (Acceptance rate: 25%)
- 2017 Kocielnik, R., Hsieh, G. *Send Me a Different Message: Utilizing Cognitive Space to Create Engaging Message Triggers*, CSCW 2017. (Acceptance rate: 35%)
- 2017 Drouhard, M., Chen, NC., Suh J., Kocielnik, R., Pena-Araya, V., Cen K., Zheng X., Aragaon, C. *Aeonium: Visual Analytics to Support Collaborative Qualitative Coding*, PacificVis 2017. (Acceptance rate: 29%)
- 2017 Hong, R., Kocielnik, R., Yoo, MJ., Battersby, S., Kim, J., Aragon, C. *Designing Interactive Distance Cartograms to Support Urban Travelers*, PacificVis 2017. (Acceptance rate: 29%)

- 2017 Chen, N.C., Brooks, M., Kocielnik, R., Hong, S.R., Smith, J., Lin, S., Qu, Z., Aragon, C. *Lariat: A Visual Analytics Tool for Social Media Researchers to Explore Twitter Datasets*, HICSS 2017. (Acceptance rate: 41%)
- 2017 Chen, N.C., Brooks, M., Kocielnik, R., Hong, S.R., Smith, J., Lin, S., Qu, Z., Aragon, C. *SparQs: Visual Analytics for Sparking Creativity in Social Media Exploration*, HCII 2017. (Acceptance rate: 45%)
- 2016 Hsieh, G., & Kocielnik, R. *You Get Who You Pay for: The Impact of Incentives on Participation Bias*, CSCW 2016. (Best paper award: top 1%, Acceptance rate: 25%)
- 2015 Kocielnik, R. & Sidorova, N. *Personalized Stress Management: Enabling Stress Monitoring with LifelogExplorer*, German Journal on Artificial Intelligence 2015.
- 2013 Ouwerkerk, M., Dandine, P., Bolio, D., Kocielnik, R., Mercurio, J., Huijgen, H., & Westerink, J. *Wireless multi sensor bracelet with discreet feedback*, Wireless Health 2013. (Acceptance rate: 21%)
- 2013 Kocielnik, R., Sidorova, N., Maggi, F. M., Ouwerkerk, M., & Westerink, J. H. *Smart technologies for long-term stress monitoring at work*, Computer-Based Medical Systems (CBMS) 2013. (Acceptance rate: 29%)
- 2013 Kocielnik, R., Maggi, F. M., & Sidorova, N. *Enabling self-reflection with LifelogExplorer: Generating simple views from complex data*, PervasiveHealth 2013. (Acceptance rate: 30%)
- 2013 Bui, V., Verhoeven, R., Lukkien, J., & Kocielnik, R. *A trust evaluation framework for sensor readings in body area sensor networks*, BodyNets 2013. (Acceptance rate: 35%)
- 2012 Bakker, J., Holenderski, L., Kocielnik, R., Pechenizkiy, M., & Sidorova, N. *Stress@work: From measuring stress to its understanding, prediction and handling with personalized coaching*, International Health Informatics Symposium 2012. (Acceptance rate: 18%)
- 2011 Dhillon, B., Banach, P., Kocielnik, R., Emparanza, J. P., Politis, I., Rączewska, A., & Markopoulos, P. *Visual fidelity of video prototypes and user feedback: a case study*, BritishHCI 2011. (Acceptance rate: 31%)
- 2011 Dhillon, B., Kocielnik, R., Politis, I., Swerts, M., & Szostak, D. *Culture and facial expressions: a case study with a speech interface*, INTERACT 2011. (Acceptance rate: 25%)
- 2009 Jarkiewicz, J., Kocielnik, R., & Marasek, K. *Anthropometric Facial Emotion Recognition*, HCII 2009.

WORKSHOP, POSTER & SYMPOSIA PUBLICATIONS

- 2018 Kocielnik, R., Hsieh, G., Avrahami, D., Chapter 7: *Helping Users Reflect on Their Own Health-Related Behaviors*, Studies in Conversational UX Design, Springer Book series on Human-Computer Interaction 2018
- 2018 Kocielnik, R., Hsieh, G. *Facilitating Self-Learning in Behavior Change Through Long-term Intelligent Conversational Assistance*, Doctoral Consortium paper, IUI 2018
- 2016 Karkar, R., Kocielnik, R., Zhang, X., Fogarty, J., Ioannou, G.N., Munson, S.A., Zia, J. *Towards a Portable, self-administered critical flicker frequency test*, UbiComp 2016.

2016	Chen, NC., Kocielnik, R., Drouhard, M., Peña, V., Suh, J., Cen, K., Zheng, X., Aragon, C. <i>Challenges of Applying Machine Learning to Qualitative Coding</i> , Human Centered Machine Learning Workshop at CHI 2016.
2016	Kocielnik, R. Hsieh, G. <i>Utilizing Cognitive Space and Crowds to Create Diverse and Engaging Behavior Change Triggers</i> , ISRII 8 Scientific Meeting.
2014	Kocielnik, R. <i>LifelogExplorer: A Tool for Visual Exploration of Ambulatory Skin Conductance Measurements in Context</i> , Measuring Behavior 2014.
2012	Kocielnik, R., Pechenizkiy, M., & Sidorova, N. <i>Stress Analytics in Education</i> , Educational Data Mining 2012. (Acceptance rate: 46%)

SERVICES & AWARDS

2019	CHI 2020 organizing committee - Assistant to Paper Chairs
2018	SIGAI IUI 2018 Travel Grant (\$1000)
2016	Best Paper Award, ACM CSCW 2016 Conference
2015	Publication Chair of Pervasive Health 2015 conference.
2013	Co-organized a workshop on stress measurement techniques at Computer-Based Medical Systems Conference (CBMS).
2013	Presentation of the Stress@Work project at MobileWorld 2013 electronics show in Barcelona, Spain.
2012	Nominated for the TU/e Design Project Award for the Stress@Work project among other 5 best design projects of 2012.
2012	Presentation of the Stress@Work project at CeBIT 2012 electronics show in Hanover, Germany.
2011	Founding member of ACM SIGCHI local chapter in Poland.
2009	Awarded exchange scholarship at Glyndŵr University in Wales, UK.
2008	Awarded Socrates-Erasmus EU student exchange scholarship for studies at University of Westminster in London.
2007	Awarded science scholarship by The Minister of Higher Education.
2006	Awarded science scholarship by The Polish Telecommunication Foundation.

LANGUAGES

English	Fluent in speaking and writing (TOEFL score: 117/120)
Dutch	Basic in speaking, intermediate in reading and writing (level B1)
Polish	Fluent; native speaker

INTEREST & EXTRACURRICULAR

Community	Member of UW student union elections committee
Sports	Yoga, Bouldering, Cardio Kickboxing
Other	Japanese Culture, Preparing Sushi, Traveling