

Bektur Ryskeldiev

PhD Candidate, Research Fellow
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EDUCATION

UNIVERSITY OF AIZU

PhD candidate in
Computer Science
expected to graduate
in September 2018

UNIVERSITY OF AIZU

MS in Computer Science
2013–2015

AMERICAN UNIVERSITY OF CENTRAL ASIA

BA in Software Engineering
2008–2012

LINKS

Web: apolotary.com

SKILLS

TECHNOLOGIES

- Mobile Development
- VR/MR Development
- Media streaming
- Telepresence
- Indoor Positioning
- Spatial Audio
- Signal Processing

PROGRAMMING

Over 5000 lines:
Objective-C • Python • Shell
C# • Pure Data • \LaTeX
Over 1000 lines:
C • C++ • Praat • Assembly

EXTRACURRICULAR

FOUNDER OF:

Extending Reality Bishkek:
The first AR/VR meetup in Kyrgyzstan
Japan Mechanical Keyboard Group
Tokyo Mechanical Keyboard Meetup
Top Clack: Mechanical Keyboard podcast

PRESENTER AT:

SIGGRAPH Spotlight (since 2017)
Tokyo iOS Meetup (2014–2017)
Bishkek Developer Meetup (2016–2017)
Tokyo Mechanical Keyboard Meetup
(2016–2017)
Top Clack: Mechanical Keyboard podcast
(2016–2018)
The Board podcast (2016)

EXPERIENCE

UNIVERSITY OF TSUKUBA | Research Fellow

Researcher at Digital Nature Group laboratory led by Prof. Yoichi Ochiai
since April 2018

NTT LABORATORIES | Research Intern at Musashino R&D Center

Research internship on video streaming quality control.
August - September 2017

ACM SIGGRAPH

S3: SIGGRAPH Student Services (2017)

Invited resume reviewer for applicants interested in VR/HCI research

International Resources Committee Team Leader (since 2017)

Managing the Audio Guides and Podcasts Team

Student Volunteer Program Team Leader (2016–17)

Managing Student Volunteers at Emerging Technologies and VR Village sections

Student Volunteer Program (2015–2017)

Student Volunteer at ACM SIGGRAPH and ACM SIGGRAPH Asia conferences
since 2015

UNIV. OF APPLIED SCIENCES DÜSSELDORF | Visiting Researcher

February 2017

Worked at Prof. Jens Herder's laboratory on setup and configuration of realtime
broadcasting in Virtual Reality studios, telepresence, evaluation of user experience in
VR interfaces.

COMPUTER ARTS LABORATORY | Research Assistant

2013–2018

Worked with Prof. Michael Cohen and Prof. Julián Villegas on spatial audio
rendering for wirelessly connected mobile devices and control of distributed
multimodal displays.

HELIUM9 GAMES | Mobile Consultant, Unity Developer

Integrated proprietary AI technology for iOS-based Unity game project
2015–2016

AIZULAB | iOS Developer

Developed application for control of distributed smart house systems.
2014–2015

SIBERS | iOS Developer

Image and audio processing, beta-testing, training and supervision of junior
developers
2011–2013

AWARDS AND SCHOLARSHIPS

- 2017 ACM SIGCHI 2018 Doctoral Consortium
- 2017 University of Aizu Graduate School Information Fair, Best Poster 2nd Place
- 2017 ACM SIGGRAPH Turing Award Celebration Grant
- 2017 First place in IoT Section at FUKUSHIMA Hackathon 2017
- 2016 First place in IoT Section at IoT x Security Hackathon 2016
- 2015 Best Poster award 3rd prize at ACM SIGGRAPH VRCAI Conf.
- 2015 MEXT Scholarship for PhD program
- 2013 Best Paper prize at Tohoku-Section Joint Convention
- 2013 MEXT Scholarship for Master's program

PUBLICATIONS

- [1] M. Cohen, Y. Nagayama, and B. Ryskeldiev. Metering black holes: networking stand-alone applications for distributed multimodal synchronization. In *Proceedings of the 18th ACM Int. Conf. on Multimodal Interaction*, pages 396–397. ACM, 2016.
- [2] M. Cohen, R. Ranaweera, B. Ryskeldiev, T. Oyama, and A. Hashimoto. Twirleds: Spun and whirled affordances controlling multimodal mobile-ambient environments with reality distortion and synchronized lighting to preserve intuitive alignment. In *Scientific Phone Apps and Mobile Devices Journal*, 2017.
- [3] M. Cohen, R. Ranaweera, B. Ryskeldiev, T. Oyama, A. Hashimoto, N. Tsukida, and T. Miyaji. Mixed virtuality transducer: virtual camera relative location displayed as ambient light. In *SIGGRAPH Asia 2014 Mobile Graphics and Interactive Applications*, page 23. ACM, 2014.
- [4] M. Cohen, R. Ranaweera, B. Ryskeldiev, T. Oyama, A. Hashimoto, N. Tsukida, and T. Miyaji. Multimodal mobile-ambient trans-medial twirling with environmental lighting to complement fluid perspective with phase-perturbed affordance projection. In *SIGGRAPH Asia 2014 Mobile Graphics and Interactive Applications*, page 15. ACM, 2014.
- [5] J. Herder, P. Ladwig, K. Vermeegen, D. Hergert, F. Busch, K. Klever, S. Holthausen, and B. Ryskeldiev. Mixed reality experience: How to use a virtual (tv) studio for demonstration of virtual reality applications. In *13th Int. Joint Conf. on Computer Vision, Imaging and Computer Graphics Theory and Applications*, 2018.
- [6] B. Ryskeldiev. Spatial social media: Towards collaborative mixed reality telepresence “on the go”. In *ACM SIGCHI 2018 Doctoral Consortium*, 2018.
- [7] B. Ryskeldiev, M. Cohen, and J. Herder. Demo: Applying rotational tracking and photospherical imagery to immersive mobile telepresence and live video streaming groupware. In *SIGGRAPH Asia Symp. on Mobile Graphics and Interactive Applications*, 2017.
- [8] B. Ryskeldiev, M. Cohen, and J. Herder. Streamspace: Pervasive mixed reality telepresence for remote collaboration on mobile devices. In *IPSJ Journal of Information Processing, Special issue of “Advances in Collaboration Technologies”*, 2018.
- [9] B. Ryskeldiev, M. Cohen, and J. Villegas. Rendering spatial audio through dynamically reconfigurable smartphone loudspeaker arrays. *14th ACM SIGGRAPH Int. Conf. on VR Continuum and Its Applications in Industry, Kobe*, 2015.
- [10] B. Ryskeldiev, Y. Ochiai, M. Cohen, and J. Herder. Distributed metaverse: creating decentralized blockchain-based models for peer-to-peer sharing of virtual spaces for mixed reality applications. In *9th Augmented Human Int. Conf.*, 2018.
- [11] B. Ryskeldiev, J. Villegas, and M. Cohen. Exploring virtual sound environments with mobile devices. *Tohoku-Section Joint Convention of Institutes of Electrical and Information Engineers, Japan*, June 2013.
- [12] N. Tsukida, B. Ryskeldiev, and M. Cohen. Lights, camera, action!: Ambient lighting extending photospherical display. *14th ACM SIGGRAPH Int. Conf. on VR Continuum and Its Applications in Industry, Kobe*, 2015.

PAPER REVIEWS

ACM SIGCHI
2018

Invited reviewer for Late Breaking Work section

ARTECH 2017
2016-2017

Reviewing papers on Digital Arts and Virtual Reality.

Journal of Virtual Reality and Broadcasting
2016-2017

Reviewing papers on Computer Graphics and Virtual Reality.

DEMOS

University of Aizu Graduate School Information Fair
2016-2017

Presented posters and live demonstrations of current research projects on applications of spatial data to social media streaming.

International Symposium on Spatial Media
2015, 2018

Presented a demo for “Exploring Virtual Sound Environments with Mobile Devices” paper (2015) and StreamSpace (2018)