

Bektur Ryskeldiev

PhD Candidate, Mobile Developer
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EDUCATION

UNIVERSITY OF AIZU

PhD candidate in
Computer Science
expected to graduate
in March 2019

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:

Japan Mechanical Keyboard Group
Tokyo Mechanical Keyboard Meetup
Top Clack: Mechanical Keyboard podcast

PRESENTER AT:

Tokyo iOS Meetup (2014–2017)
Tokyo Mechanical Keyboard Meetup
(2016–2017)
Top Clack: Mechanical Keyboard podcast
(since 2016)
The Board podcast (2016)

EXPERIENCE

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 (since 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

UNIVERSITY OF AIZU | Research & Teaching Assistant

Teaching courses on Computer Music, Sound & Audio, Human Interface & VR
since 2013

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

RESEARCH

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

since 2013
Working with Prof. Michael Cohen and Prof. Julián Villegas on spatial audio
rendering for wirelessly connected mobile devices and control of distributed
multimodal displays.

AWARDS AND SCHOLARSHIPS

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| 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 AND OTHER ACADEMIC WORKS

PAPERS

- [1] M. Cohen, Y. Nagayama, and B. Ryskeldiev. Metering black holes: networking stand-alone applications for distributed multi-modal 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] 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 Mobile Graphics and Interactive Applications, Bangkok*, 2017.
- [6] B. Ryskeldiev, M. Cohen, and J. Herder. Streamspace: Pervasive mixed reality telepresence for remote collaboration on mobile devices. In *Journal of Information Processing Society of Japan*, 2017 (conditionally accepted for publication).
- [7] 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.
- [8] 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.
- [9] 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.

THESES

Realtime spatial sound rendering using streamed audio displayed through mobile device loudspeakers

Master's thesis | 2015

This research project's prototype won Best Paper prize at Tohoku-Section Joint Convention in 2013.

Image processing and gesture recognition software development for control of musical instruments

Bachelor thesis | 2012

PAPER REVIEWS

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

Presented a demo for “Exploring Virtual Sound Environments with Mobile Devices” paper