

ACT 2019 Application

Mutsuhisa Ban

Ph.D. candidate, The University of Tokyo, Japan

An explanation of any relevant background you have in category theory or any of the specific project areas

At ELLSSI 2017, I took the three class below:

1. “Categories proofs and programs” by Samson Abramsky and Nikos Tzevelekos
2. “Picturing Quantum Processes” by Bob Coecke and Alex Kissinger
3. “Introduction to Categorical Compositional Distributional Semantics” by Dimitrios Kartsaklis and Martha Lewis

The date you completed or expect to complete your Ph.D

September 2019

One-sentence summary of its subject matter.

Formal epistemology on the foundation of game theory

Order of project preference

1. Professor David Spivak “Toward a mathematical foundation for autopoiesis”
2. Professor Tobias Fritz “Partial evaluations, the bar construction, and second-order stochastic dominance”

To what extent can you commit to coming to Oxford (availability of funding is uncertain at this time)

I am applying for the foreign trip grant provided by the University of Tokyo, which can cover full expenditure to participate this Adjoint School.

A brief statement on why you are interested in the ACT2019 School.

I am working on the game theory and formal epistemology and wish to investigate them via category-theoretical approach. I am also interested in the series of work conducted by Dr Jules Hedges so this is a very precious opportunity for me.

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Research Interest Game theory, Decision Theory, Formal epistemology

Current Position

2016 - present Research Assistant Research Center for Advanced Science & Technology, University of Tokyo

Education

2019, expected	Ph.D. candidate	The University of Tokyo	Advanced Science and Technology
2016	M.Sc.	Tokyo Institute of Technology	Decision Science
2014	B.Eng.	Tokyo Institute of Technology	Decision Science

Research Experience

Oct. 2016-	Research Assistant	The University of Tokyo
Oct. 2016 - Mar. 2017	Research Assistant	Tokyo Institute of Technology
Apr. 2015 - Mar. 2016	Research Affiliate	Institute of Statistical Mathematics
Oct. 2014 - Mar. 2016	Research Assistant	Tokyo Institute of Technology
Dec. 2012 - Mar. 2013	Research Assistant	Tokyo Institute of Technology, Global Edge Institute
Oct. 2012 - Mar. 2013	Research Assistant	Tokyo Institute of Technology, Secure Device Research Center
Nov. 2011 - Mar. 2013	Programmer	Honda Research Institute Japan. Ltd.
Feb. 2011 - Apr. 2011	Research Assistant	National Institute for Informatics

Award

2011	Field Innovation Award, The Japanese Society for Artificial Intelligence
2010	Award, The National Research Competition for Undergraduates

Grant

2018 - 2019	JST CREST Grant for International Research Collaboration	JPY 3,000,000
2018 - 2019	JST AIP Challenge 2018	JPY 680,000

Fellowship & Honour

2016-	Special Research Assistant Fellowship (SEUT), The University of Tokyo
2015 - 2016	Leading Doctoral Fellowship, Japan Society for the Promotion of Science
2004 - 2014	Special Education & Research Track for Integrated Higher Education
2007 - 2011	Honour Program "Elite in Mathematics and Science" Tokyo Institute of Technology

Scholarship

2016-	JASSO Scholarship 1st-class for doctoral candidates
2017	Visiting Scholarship at Clare Hall, Cambridge
2017	Computational Science Alliance Scholarship for Foreign Training, The University of Tokyo
2014	Rothberg Merit Scholarship, Hebrew University Jerusalem
2016-2018	Tuition waiver at The University of Tokyo
2014-2016	JASSO Scholarship Type-1st for Graduates
2014 - 2015	Tuition waiver at Tokyo Institute of Technology for Graduates
2009 - 2012	Tuition waiver at Tokyo Institute of Technology for Undergraduates
2009 - 2012	JASSO Scholarship Type-1st for Undergraduate
2008 - 2011	Inoue Scholarship

Teaching Experiences

Game Theory	Tokyo Institute of Technology
Fundamentals of Mathematics	Tokyo Institute of Technology
Advanced First-person Studies (Epistemology)	The University of Tokyo

Computer Skill Python, Haskell, C, MATLAB, R, SQL, Markdown, TeX, bash, GIS, Git

Language

English	Full professional proficiency
Japanese	Native proficiency

Citizenship Japanese

Last update: January 18, 2018