







# Titipat Achakulvisut

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PERSONAL INFORMATION	PhD Candidate Department of Biomedical Engineering Northwestern University and Rehabilitation Institute of Chicago 345 E Superior St. Room 1479 Chicago, IL, USA 60611	☎ (224) 999-3633 ✉ titipata@allenai.org 🐱 <a href="https://github.com/titipata">https://github.com/titipata</a> 📄 <a href="https://tupleblog.github.io">https://tupleblog.github.io</a>
INTERESTS	Machine Learning, Text Mining, Natural Language Processing, Science of Science, Content-based and Personalized Recommendation System, Medical Electronic Health Records	
EDUCATION	<b>Northwestern University</b> , Evanston, IL, USA Ph.D., Biomedical Engineering	2015 – Present (GPA 3.95/4.0)
	<b>Northwestern University</b> , Evanston, IL, USA M.S., Biomedical Engineering	2013 – 2015
	<b>Chulalongkorn University</b> , Bangkok, Thailand B.Eng, Electrical Engineering <i>First Class Honors</i>	2008 – 2012 (GPA 3.87/4.0)
AWARDS & FELLOWSHIPS	Royal Thai Government Scholarship, Ministry of Science and Technology Microsoft Azure Research Award \$20,000 2 <sup>nd</sup> place in Data Visualization Competition, NU Computational Research day Outstanding Academic Performance in Engineering Nominated candidate for the Ananda Mahidol Scholarship SCG Innovative Suggestion Award 1 <sup>st</sup> place in Mathematics Entrance Exam, ONET, Thailand	2012 – present 2015 – 2016 2015 2008 – 2012 2012 2011 2008
RESEARCH EXPERIENCE	<b>Allen Institute for Artificial Intelligence Internship</b> <i>Mentor: Chandra Bhagavatula</i> <i>Research: Scientific Claim Identification and Evidence Alignment</i>	Spring 2017
	<b>Master's Research</b> <i>Rehabilitation Institute of Chicago (RIC), Northwestern University</i> <i>Advisor: Konrad Kording</i> <i>Research: A fast content-based recommendation system for scientific publications</i>	2014 – 2015
	<b>Research Intern</b> <i>AIM Laboratory, Department of Biomedical Engineering</i> <i>Mahidol University, Salaya, Thailand</i>	2012 – 2013
	<b>Undergraduate Research</b> <i>DSPRL Laboratory, Department of Electrical Engineering</i> <i>Chulalongkorn University, Bangkok, Thailand</i> <i>Advisor: Nisachon Tangsangiumvisai</i> <i>Research: Adaptive Filter and Noise Reduction Algorithm</i>	2011 – 2012

TALK	Invited talk at Brain and Behaviour lab, Imperial College London	September 2016
	Data visualization judging panel, Northwestern Computational Research day	April 2016
	Invited talk at HAMLET group, University of Wisconsin at Madison	March 2016
	Invited talk at ChiPy (Chicago Python community), Bank of America	February 2016
	Invited talk at Knowledge Lab, University of Chicago	November 2015
	Invited talk at SONIC lab, Northwestern University	April 2015
JOURNAL ARTICLE	Achakulvisut T, Acuna DE, Ruangrong T, Kording K (2016) <i>Science Concierge: A Fast Content-Based Recommendation System for Scientific Publications</i> . PLoS ONE 11(7): e0158423. doi:10.1371/journal.pone.0158423 (see on  )	
CONFERENCES	D. E. Acuna, T. Achakulvisut, K. P. Kording <i>How to visit 0.5% of 15,000 possible posters? Automated poster visit scheduler for SfN</i> Society for Neuroscience conference (see www.scholarfy.net)	October 2015
	D. E. Acuna, T. Achakulvisut, K. P. Kording <i>Website for Automatic Reviewer Assignment and Manuscript Scoring</i> Science of Team Science conference (see pr.scienceofscience.org)	June 2015
PATENT	Konrad Kording, Daniel E. Acuna, Titipat Achakulvisut. <i>Data Butler</i> . U.S. Provisional Patent Application No. 62/218,998, filed September 15, 2015 (assignee Rehabilitation Institution of Chicago)	2015
MEDIA	PLOS Blogs, #PLOS #SfN15 preview: build your itinerary with this great new tool (see article)	
PROJECTS	<b>Scholarfy - content-based recommendation for MEDLINE dataset</b> <i>Recommendation system web application to search 14.3 millions publications from MEDLINE dataset</i> (ongoing project, see pubmed.scholarfy.net)	
	<b>Disambiguation of grant and publication datasets</b> <i>Applying disambiguation algorithm to disambiguate institutions and authors from disparate dataset including MEDLINE, NIH and NSF grant datasets</i> (ongoing project, see on  )	
	<b>Pubmed Parser</b> <i>Python parser for PubMed Open-Access (OA) subset and MEDLINE XML repository</i> (see on  )	
	<b>pyglmnet</b> <i>A python implementation of elastic-net regularized generalized linear models</i> (main contributor, see on  )	
	<b>Neural Event Reconstruction and Detection via Sparsity (NERDS)</b> <i>Matlab package implementing blind deconvolution method for neural spike recovery from calcium signal. Implementation of algorithm invented by E. L. Dyer</i> (see on  )	
	<b>Optimal Control of Thrust-Vectored Hovering Rocket</b> <i>Simulation of projection-based optimal control of non-linear system in Mathematica. This was the final project in an Optimal Control of Nonlinear Systems class taught by Prof. Todd Murphey</i> (see on  )	
	<b>Lagrangian Mechanics of Trapezoidal Box with Movable Link</b> <i>Simulation of a complex dynamical system including impact using Lagrangian mechanics method in Mathematica. This was the final class project in Theory of Machine Dynamics taught by Prof. Todd Murphey</i>	

**Framework for Brain Image Segmentation using modified Fuzzy C-Means Clustering Algorithm**

*Research assistant under the supervision of Assoc. Prof. Panrasee Ritthipravat at AIM Laboratory. This project included a collaboration with Zaw Htet Aung and Tulakarn Ruangrong from the class project Intelligence Systems and Biomedical Signal Processing class project*

**A Noise Reduction Technique for Hands-Free Telephony in a Car Environment, M-Max LMS Adaptive Algorithm in Hands-Free Telephony**

*Senior Projects at Digital Signal Processing Research Laboratory (DSPRL) under the supervision of Assoc. Prof. Nisachon Tangsangiumvisai*

MEMBERSHIP	NIH Special Volunteer	2016 – present
	Member of the McCormick Graduate Leadership Council , Northwestern U.	2014 – 2015
	IEEE Student Membership	2011 – 2015
	Member of the Engineering Students Academic Club	2008 – 2011
	Member of the Engineering Light and Sound Club	2008 – 2011
SELECTED EXTRACURRICULAR ACTIVITIES	<b>Summer School in Computational Sensory-Motor Neuroscience (CoSMo)</b>	2014
	<b>Brain Fair</b>	2014
	<i>Volunteered with Northwestern University Brain Awareness Outreach (NUBAO) educating Chicago community about the brain</i>	
	<b>Head of Educational Parts, NECTEC Electronics Camp</b>	2010
	<i>Taught basic electronics and circuit theory using laboratory experiments</i>	
	<b>Member of the Funfueng Camp</b>	2008 – 2010
<i>Tutored Mathematics and Natural Sciences to students in remote areas of Thailand</i>		
	<b>Head of Freshmen Tutorial Project</b>	2009
	<i>Recruited engineering tutors for Calculus, Physics, Chemistry, and Basic Computer Programming (I was also a tutor from 2008 – 2012)</i>	
	<b>Physics Olympiad Camp</b>	2006 – 2007
COMPUTER SKILLS	<b>Programming and Scripting Languages:</b> <i>Advanced:</i> Python (NumPy, scikit-learn, pandas), Apache Spark, MATLAB, Mathematica <i>Intermediate:</i> Julia, HTML, CSS, JavaScript, Java, R, C, AngularJS, Scala <b>Others:</b> L <sup>A</sup> T <sub>E</sub> X, Emacs, Git, Adobe Illustrator, Microsoft Office <b>Cloud Computing:</b> Amazon EC2, Google Cloud Computing, Microsoft Azure <b>Operating Systems:</b> Mac OS X, Linux, Windows	
LANGUAGES	Thai (Native), English (Proficient)	