Jon Pipitone

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Education

- **MD Candidate (2016-2020), Queen's University School of Medicine**
- **MSc. Computer Science (2007-2010), University of Toronto**
  Thesis: "On software quality in climate modelling"
- **Hon BSc. Computer Science (2000-2004), University of Toronto**

Work

- **Research Methods Specialist**, 2012-2016
  Kimel Lab, Centre for Addiction and Mental Health, Toronto

  Research in automated MRI image segmentation of the hippocampus, machine learning approaches to understanding hippocampus shape changes in Alzheimer's disease, classification of deficit/non-deficit schizophrenia from DWI white matter measures and tractography. Supported members of the lab and other CAMH researchers with analysis design and implementation. Designed and ran research computing workshops and teachings for lab and CAMH researchers. Responsible for multisite study data curation and automated image preprocessing and quality control. Workstation and cluster administration.

- **Research Intern**, 2011-2012
  Kimel Lab, Centre for Addiction and Mental Health, Toronto

  Supervised by Dr. Mallar Chakravarty in the Translational Imaging-Genetics Research lab. Conducted research on automated MRI image segmentation techniques for the hippocampus and subfields. Also responsible for setup and management of lab cluster computing resources.

- **Course Developer**, 2012
  Mozilla, Toronto

  Developed course materials for the Python programmming lessons of the Software Carpentry project http://software-carpentry.org.

- **Software Developer**, 2005-2007
  The Jonah Group, Toronto

  Developed a "data warehouse" database to allow efficient claims reporting by Blue Cross of Michigan.

- **Software Developer**, 2004-2005
  Fidalia Networks, Mississauga

  Designed and developed a zero-configuration remote desktop application for remote assistance. Other responsibilies included configuring and managing company networking and wireless broadband radio infrastructure.

- **Software Developer**, 2003-2004
  The Blueprint Initiative, Toronto

  Developed a web application for curating and investigating biomolecular interactions data derived from literature search.

- **NSERC Summer Internship**, 2002 *University of Victoria, Computer Science Deptartment, BC*

  Supervised by Dr. Hausi Müller in the Adoption-Centric Reverse research group. Developed a web-based tool for software reverse engineering and conducted user studies.

Teaching

- **QMED Computes**, Queen's University. 09/2017-05/2018. *Instructor*

  Designed and ran a monthly research computing skills course for Queen's medical students. See https://pipitone.github.io/qmed-computes

- **Scientific Computing Fundamentals for CAMH Researchers workshop series**, CAMH, *Organizer/Instructor*

  Started and organized several multi-day workshop series taught by CAMH researchers *for* CAMH researchers on relevant computing and research skills. See the following workshop websites

  - November 2015, CAMH. http://camh-scwg.github.io/lrn2compute
  - August 2015, CAMH. http://pipitone.github.io/camh-computing-skills-august-2015
  - March 2015, CAMH. http://pipitone.github.io/computing-skills

- **Climate Change: Software, Science, and Society (PMU199)**. University of Toronto, 01/2011-05/2011, *Teaching Assistant*
- **Software Carpentry (Python)**, University of Toronto, 01/2011-05/2011, *Head Teaching Assistant*
- **Software Carpentry (Python)**, University of Toronto, 09/2010-12/2010, *Head Teaching Assistant*
- **Software Carpentry**, University of Toronto, 05/2010-07/2010, *Course design*
- **Software Carpentry (MATLAB)**, University of Toronto, 01/2010-05/2010, *Instructor*
- **Software Carpentry (MATLAB/Python)**, University of Toronto, 09/2009-12/2009, *Teaching Assistant*
- **Introduction to Computer Science (CSCA48)**, University of Toronto, 05/2009-08/2009, *Teaching Assistant*
- **Software Design (CSC207)**, University of Toronto, 01/2009-05/2009. *Teaching Assistant*
- **Introduction to Computer Programming (CSC148)**, University of Toronto, 01/2008-05/2008. *Teaching Assistant*
- **Introduction to Computer Programming (CSC108)**, University of Toronto, 09/2007-12/2007. *Teaching Assistant*

Volunteer Work

- **QMED Being A Medical Student**, Queen's University, 09/2018-Present, *Facilitator*

  Student-led discussion groups for upper/lower year medical students.

- **QMED SpeakEasy**, Queen's University, 05/2018, *Organiser/Facilitator*

  Class event to foster dialog on difficult topics.

- **QMED Mindfulness**, Queen's University, 09/2016-05/2018, *Instructor*

  Organized and led daily morning mindfulness sessions and co-learning group.

- **Pre-clerkship Clinical Skills**, Queen's University, 2017-2018. *Instructor*

  Weekly pre-clerk clinical skills teaching sessions.

- **QMED Class Professionalism Rep**, Queen's University, 01/2017-Present. *Elected representative*

  Neutral advocate available to hear and act on behalf of student professionalism concerns.

- **Circles Kingston**, Loving Spoonful, Kingston, 07/2018-09/2018, *Kitchen assistant*

  Poverty-to-self-sufficiency networking group meeting monthly to cook and share a meal together.

- **Software Carpentry**, 2007-2017, *Instructor/sysadmin*

  Research computing skills workshops for scientists.

- **CAMH Schizophrenia Volleyball Program**, CAMH, Toronto, 2012-2016. *Coordinator/Participant*

  Weekly friendly client and student/staff volleyball games.

- **Toronto Sustainable Food Co-operative**, University of Toronto, 2011. *Founder*

  Founded a workers cooperative that went on to run the Harvest Moon campus cafe.

- **Hot Yam!**, *2007-2011*. University of Toronto, *Coordinator*

  Student-run campus kitchen providing low-cost vegan meals. Press! https://nowtoronto.com/food-and-drink/food/hot-damn-hot-yam/

- **Canadian Civil Liberties Association**, Toronto, 2010. *Observer*

  Observer at the protests during the 2010 G20 meeting.

Peer-Reviewed Publications

- Bhagwat, Nikhil, Jon **Pipitone**, Aristotle N. Voineskos, and M. Mallar Chakravarty. "An Artificial Neural Network Model for Clinical Score Prediction in Alzheimer Disease Using Structural Neuroimaging Measures." Journal of Psychiatry and Neuroscience 44, no. 4 (July 1, 2019): 246–50. https://doi.org/10.1503/jpn.180016.

- Amaral, Robert S.C., Min Tae M. Park, Gabriel A. Devenyi, Vivian Lynn, Jon **Pipitone**, Julie Winterburn, Sofia Chavez, et al. "Manual Segmentation of the Fornix, Fimbria, and Alveus on High-Resolution 3T MRI: Application via Fully-Automated Mapping of the Human Memory Circuit White and Grey Matter in Healthy and Pathological Aging." NeuroImage 170 (2018): 132–50. https://doi.org/10.1016/j.neuroimage.2016.10.027.

- Donelle, Jessy, Jacalyn Duffin, Jonathan **Pipitone**, and Brian White-Guay. "Assessing Canada's Drug Shortage Problem." CD Howe Institute Commentary 515, 2018. https://doi.org/10.2139/ssrn.3192558.

- Nazeri, Arash, Benoit H. Mulsant, Tarek K. Rajji, Melissa L. Levesque, Jon **Pipitone**, Laura Stefanik, Saba Shahab, et al. "Gray Matter Neuritic Microstructure Deficits in Schizophrenia and Bipolar Disorder." Biological Psychiatry 82, no. 10 (November 2017): 726–36. https://doi.org/10.1016/j.biopsych.2016.12.005.

- Bhagwat, Nikhil, Jon **Pipitone**, Julie L. Winterburn, Ting Guo, Emma G. Duerden, Aristotle N. Voineskos, Martin Lepage, Steven P. Miller, Jens C. Pruessner, and Mallar Mallar Chakravarty. "Manual-Protocol Inspired Technique for Improving Automated MR Image Segmentation during Label Fusion." Frontiers in Neuroscience 10, no. JUL (July 19, 2016). https://doi.org/10.3389/fnins.2016.00325.

- Plitman, Eric, Raihaan Patel, Jun Ku Chung, Jon **Pipitone**, Sofia Chavez, Francisco Reyes-Madrigal, Gladys Gómez-Cruz, et al. "Glutamatergic Metabolites, Volume and Cortical Thickness in Antipsychotic-Naive Patients with First-Episode Psychosis: Implications for Excitotoxicity." Neuropsychopharmacology 41, no. 10 (September 8, 2016): 2606–13. https://doi.org/10.1038/npp.2016.84.

- Ameis, Stephanie H., Jason P. Lerch, Margot J. Taylor, Wayne Lee, Joseph D. Viviano, Jon **Pipitone**, Arash Nazeri, et al. "A Diffusion Tensor Imaging Study in Children With ADHD, Autism Spectrum Disorder, OCD, and Matched Controls: Distinct and Non-Distinct White Matter Disruption and Dimensional Brain-Behavior Relationships." American Journal of Psychiatry 173, no. 12 (December 2016): 1213–22. https://doi.org/10.1176/appi.ajp.2016.15111435.
- Barnett, Alexander J, Min Tae M Park, Jon **Pipitone**, M Mallar Chakravarty, and Mary Pat McAndrews. "Functional and Structural Correlates of Memory in Patients with Mesial Temporal Lobe Epilepsy." Frontiers in Neurology 6 (May 13, 2015): 103. https://doi.org/10.3389/fneur.2015.00103.
- Nieman, Brian J., A. Elizabeth de Guzman, Lisa M. Gazdzinski, Jason P. Lerch, M. Mallar Chakravarty, Jon **Pipitone**, Douglas Strother, et al. "White and Gray Matter Abnormalities After Cranial Radiation in Children and Mice." International Journal of Radiation Oncology*Biology*Physics 93, no. 4 (November 2015): 882–91. https://doi.org/10.1016/j.ijrobp.2015.07.2293.
- Voineskos, Aristotle N., Julie L. Winterburn, Daniel Felsky, Jon **Pipitone**, Tarek K. Rajji, Benoit H. Mulsant, and M. Mallar Chakravarty. "Hippocampal (Subfield) Volume and Shape in Relation to Cognitive Performance across the Adult Lifespan." Human Brain Mapping 36, no. 8 (August 2015): 3020–37. https://doi.org/10.1002/hbm.22825.
- Guo, Ting, Julie L. Winterburn, Jon **Pipitone**, Emma G. Duerden, Min Tae M. Park, Vann Chau, Kenneth J. Poskitt, et al. "Automatic Segmentation of the Hippocampus for Preterm Neonates from Early-in-Life to Term-Equivalent Age." NeuroImage: Clinical 9 (2015): 176–93. https://doi.org/10.1016/j.nicl.2015.07.019.
- Wong, Angelita Pui-Yee, Jon **Pipitone**, Min Tae M. Park, Erin W. Dickie, Gabriel Leonard, Michel Perron, Bruce G. Pike, et al. "Estimating Volumes of the Pituitary Gland from T1-Weighted Magnetic-Resonance Images: Effects of Age, Puberty, Testosterone, and Estradiol." NeuroImage 94 (July 2014): 216–21. https://doi.org/10.1016/j.neuroimage.2014.02.030.
- Wheeler, A. L., M. M. Chakravarty, J. P. Lerch, Jon **Pipitone**, Z. J. Daskalakis, T. K. Rajji, B. H. Mulsant, and A. N. Voineskos. "Disrupted Prefrontal Interhemispheric Structural Coupling in Schizophrenia Related to Working Memory Performance." Schizophrenia Bulletin 40, no. 4 (July 1, 2014): 914–24. https://doi.org/10.1093/schbul/sbt100.
- Park, Min Tae M, Jon **Pipitone**, Lawrence H. Baer, Julie L. Winterburn, Yashvi Shah, Sofia Chavez, Mark M. Schira, et al. "Derivation of High-Resolution MRI Atlases of the Human Cerebellum at 3T and Segmentation Using Multiple Automatically Generated Templates." NeuroImage 95 (July 15, 2014): 217–31. https://doi.org/10.1016/j.neuroimage.2014.03.037.
- Friedel, Miriam, Matthijs C. van Eede, Jon **Pipitone**, M. Mallar Chakravarty, and Jason P. Lerch. "Pydpiper: A Flexible Toolkit for Constructing Novel Registration Pipelines." Frontiers in Neuroinformatics 8 (July 30, 2014). https://doi.org/10.3389/fninf.2014.00067.
- Felsky, D, P Szeszko, L Yu, W G Honer, P L De Jager, J A Schneider, A K Malhotra, et al. "The SORL1 Gene and Convergent Neural Risk for Alzheimer's Disease across the Human Lifespan." Molecular Psychiatry 19, no. 10 (October 29, 2014): 1125–32. https://doi.org/10.1038/mp.2013.142.
- **Pipitone**, Jon, Min Tae M Park, Julie Winterburn, Tristram A. Lett, Jason P. Lerch, Jens C. Pruessner, Martin Lepage, Aristotle N. Voineskos, and M. Mallar Chakravarty. "Multi-Atlas Segmentation of the Whole Hippocampus and Subfields Using Multiple Automatically Generated Templates." NeuroImage 101 (November 1, 2014): 494–512. https://doi.org/10.1016/j.neuroimage.2014.04.054.
- Raznahan, Armin, Phillip W Shaw, Jason P Lerch, Liv S Clasen, Deanna Greenstein, Rebecca Berman, Jon **Pipitone**, Mallar M Chakravarty, and Jay N Giedd. "Longitudinal Four-Dimensional Mapping of Subcortical Anatomy in Human Development." Proceedings of the National Academy of Sciences 111, no. 4 (January 28, 2014): 1592–97. https://doi.org/10.1073/pnas.1316911111.
- **Pipitone**, J., and S. Easterbrook. "Assessing Climate Model Software Quality: A Defect Density Analysis of Three Models." Geoscientific Model Development 5, no. 4 (August 9, 2012): 1009–22.

https://doi.org/10.5194/gmd-5-1009-2012.

Published Abstracts / Posters

- Riggs, L., Bouffet, E., Chakravarty, M., Laughlin, S., Laperriere, N., Liu, F., Skocic, J., **Pipitone, J.**, Strother, D., Hukin, J., Fryer, C., McConnell, D., and Mabbott, D. (2014). Hippocampal volumes decrease over time in children treated for medulloblastoma. Neuro-Oncology, volume 16, page 103.
- Felsky, D., Szeszko, P., Yu, L., Honer, W. G., De Jager, P. L., Schneider, J. A., Malhotra, A. K., Lencz, T., Ikuta, T., **Pipitone, J.**, Chakravarty, M. M., Lobaugh, N. J., Mulsant, B. H., Pollock, B.G., Kennedy, J. L., Bennett, B. A., and Voineskos, A. N. (2013). Effects of the SORL1 alzheimer's disease risk gene across the human lifespan. Alzheimer's & Dementia: The Journal of the Alzheimer's Association, 4(9).
- Lett, T. A., Chakravarty, M. M., Lerch, J. P., Felsky, D., **Pipitone, J.**, Daskalakis, J., Mulsant, B. H., Kennedy, J. L., and Voineskos, A. N. (2012). The schizophrenia risk gene GAD1 (GAD67) promoter variants and Fronto-Limbic system disconnectivity. Biological Psychiatry, volume 71, page 153S.
- **Pipitone, J.**, Lett, T. A. P., Roostaei, T., Lerch, J. P., Mulsant, B. H., Kennedy, J. L., Chakravarty, M. M., and Voineskos, A. N. (2012). The link between neurexin-1 and local cortical folding and surface area. Biological Psychiatry, volume 71, page 252S.
- Easterbrook, S., Glenn, M., Aranda, J., and **Pipitone, J.** (2009). Software research and climate change. In Proceedings of the 2009 Conference of the Center for Advanced Studies on Collaborative Research, pages 362–363. IBM Corp.
- **Pipitone, J.** and Easterbrook, S. (2009). On the software quality of climate models. AGU Fall Meeting Abstracts, 1:0759.
- **Pipitone, J.**, Aranda, J., and Cortés, V. Aim for the eagle: Making the best use of our software research skills to fight climate change. In proceedings of the 2010 Second International Workshop on Software Research and Climate Change.

Courses

University of Toronto, 2007-2011: - Topics in computer science (CSC2600), Winter 2011. - Building community resilience (CHL7001), Fall 2010 - Topics in software engineering (CSC2125), Winter 2007 - Natural language computing (CSC2511), Winter 2007 - Algorithms in Graph Theory (CSC2410), Fall 2007 - Computational structural biology (CSC2418), Fall 2007 - Introduction to machine learning (CSC2515), Fall 2007 - Cognitive Neuroscience (PSY493H1), Fall 2011. Audited - Physiology and Psychology of Emotion (PSY494), Fall 2011. Audited. - Buddhism and the Science of Mindfulness Meditation (NEW331), Summer 2011. Audited. - Buddhism and Cognitive Science (NEW333), Summer 2011. Audited. - Environmental Psychology (PSY435), Fall 2010, Audited.

Skills

- **Science**: Image processing, Diffusion tensor modelling, Machine learning, Artificial neural network models, High performance computing, Biomarker development, Qualitative research methods, Software quality analysis.
- **Systems**: Linux administration (Debian, Centos), Windows, Virtualization (ESXi, KVM, Docker, KVM), Provisioning (Ansible, Salt), Filesystems (ZFS, ext, NFS), Clustering (SGE, PBS)
- **Programming**: Python, R, Java, Matlab, Shell, Javascript, HTML/CSS, C/C++, Perl, Visual Basic, Eclipse, XML, SVG, XSLT, Git, SVN, MySQL, SQLite, LaTeX, Jekyll
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Neuroimaging: FSL, MINC tools, Slicer, ANTS, FreeSurfer, UKFTractography

Available at: http://github.com/pipitone/cv Last updated: Sun Nov 3 13:46:04 EST 2019