

# Debarshi Patanjali Ghoshal | CV

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## Education

<b>McGill University</b> <i>Doctor of Philosophy in Electrical Engineering</i> Thesis: Dead-beat estimators for dynamical systems with invariance Supervisor: Prof. Hannah Michalska	<b>Montreal, Canada</b> 2014 – Present
<b>Indian Institute of Technology Kanpur</b> <i>Master of Technology in Electrical Engineering</i> Thesis: Robot learning from a human expert through modified kinesthetic teaching Supervisor: Prof. Laxmidhar Behera	<b>Kanpur, India</b> 2012 – 2014
<b>Jadavpur University</b> <i>Bachelor of Electrical Engineering</i> Elective: Control Systems Engineering	<b>Kolkata, India</b> 2007 – 2011

## Experience

<b>Research</b> .....	
<b>Aerial Technologies</b> <i>Research Internship (NSERC Engage Fellowship)</i> Applying Feature Engineering in Artificial Intelligence/Machine Learning to solve practical problems.	<b>Montreal, Canada</b> Oct 2018 – Present
<b>Jadavpur University</b> <i>Research Project</i> Project title: Robust controller design for boiler burning process using RBode plot Supervisor: Prof. Smita Sadhu (Department of Electrical Engineering, Jadavpur University) The work was published in an international journal.	<b>Kolkata, India</b> Oct 2011 – May 2012
<b>Indian Institute of Science, Bangalore</b> <i>Summer Internship</i> Project title: Waypoint navigation system for unmanned aerial vehicles (UAV) Supervisor: Prof. Seetharama M. Bhat (Department of Aerospace Engineering, IISc.)	<b>Bangalore, India</b> May 2010 – Jun 2010
<b>Jadavpur University</b> <i>Research Project</i> Project title: Neural network approach for automatic number plate recognition (ANPR) Supervisor: Prof. Anjan Rakshit (Department of Electrical Engineering, Jadavpur University) The work resulted in a peer-reviewed conference paper, which also won the best-paper prize of the conference.	<b>Kolkata, India</b> May 2009 – Apr 2010
<b>Teaching</b> .....	
<b>McGill University</b> <i>Graduate Teaching Assistant, Electrical &amp; Computer Engineering Dept.</i> ECSE 404 Control Systems (Fall 2018, Fall 2017)	<b>Montreal, Canada</b> Sep 2017 – Present

**Indian Institute of Technology Kanpur**

*Teaching Assistant, Electrical Engineering Department*  
Control System Analysis (Spring 2014, Spring 2013)  
Basics of Modern Control Systems (Fall 2013)  
Intelligent Informatics Lab (Fall 2012)

**Kanpur, India***Aug 2012 – Apr 2014***Miscellaneous.....****McGill University**

*Grader, Electrical and Computer Engineering Department*  
ECSE 500 Mathematical Foundations of Systems (Fall 2018)  
ECSE 443 Introduction to Numerical Methods in Electrical Engineering (Winter 2017)  
ECSE 404 Control Systems (Fall 2016)

**Montreal, Canada***Sep 2016 – Present***McGill University**

*Exam Delivery Person, Office for Students with Disabilities*

**Montreal, Canada***Dec 2016 – Mar 2018***McGill University**

*Invigilator, Office for Students with Disabilities*

**Montreal, Canada***Nov 2015 – Dec 2016***PricewaterhouseCoopers India**

*Consultant*

**Kolkata, India***Jul 2011 – Sep 2011***Honours & Awards**

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**Lorne Trottier Engineering Graduate Fellowship**

*McGill University - Faculty of Engineering*

*2014 – 2017***Geoff Hyland Fellowship in Engineering**

*McGill University - Faculty of Engineering*

*2014 – 2017***Graduate Excellence Fellowship - Engineering**

*McGill University - Faculty of Engineering*

*2014 – 2017***MHRD Scholarship**

*Ministry of Human Resource Development, Govt. of India*

*2012 – 2014***Publications**

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D. P. Ghoshal and H. Michalska, "Finite-interval kernel-based identification and state estimation for LTI systems with noisy output data," in *2019 Annual American Control Conference (submitted)*.

D. P. Ghoshal, S. Sinha, and H. Michalska, "Algebraic nonlinear identification and output tracking control of synchronous generator using differential flatness," in *2019 Annual American Control Conference (submitted)*.

D. P. Ghoshal, N. S. Kale, and H. Michalska, "Model-free control of a double inverted pendulum on a cart," in *2019 Annual American Control Conference (submitted)*.

A. Pandey, D. P. Ghoshal, and H. Michalska, "Variational approach to joint linear model and state estimation," in *2018 Annual American Control Conference (ACC)*, pp. 3520–3525, IEEE, 2018.

D. Sridhar, D. P. Ghoshal, and H. Michalska, "B-splines in joint parameter and state estimation in

linear time-varying systems," in *2018 Annual American Control Conference (ACC)*, pp. 3508–3513, IEEE, 2018.

D. P. Ghoshal, K. Gopalakrishnan, and H. Michalska, "Kernel-based adaptive multiple model target tracking," in *Control Technology and Applications (CCTA), 2017 IEEE Conference on*, pp. 1338–1343, IEEE, 2017.

D. P. Ghoshal and H. Michalska, "Double-sided kernel observer for linear time-varying systems," in *Control Technology and Applications (CCTA), 2017 IEEE Conference on*, pp. 922–927, IEEE, 2017.

D. P. Ghoshal, K. Gopalakrishnan, and H. Michalska, "Algebraic parameter estimation using kernel representation of linear systems," *IFAC-PapersOnLine*, vol. 50, no. 1, pp. 12898–12904, 2017.

D. P. Ghoshal, K. Gopalakrishnan, and H. Michalska, "Using invariance to extract signal from noise," in *American Control Conference (ACC), 2017*, pp. 2588–2593, IEEE, 2017.

D. P. Ghoshal, N. Das, S. Dutta, and L. Behera, "Robot learns from human teacher through modified kinesthetic teaching," *IFAC Proceedings Volumes*, vol. 47, no. 1, pp. 773–780, 2014.

D. P. Ghoshal and S. D. Gupta, "Robust controller design for boiler burning process using RBode plot," *International Journal of Electrical, Electronics and Computer Engineering*, vol. 1, no. 2, pp. 11–14, 2012.

A. Roy and D. P. Ghoshal, "Number plate recognition for use in different countries using an improved segmentation," in *Emerging Trends and Applications in Computer Science (NCETACS), 2011 2nd National Conference on*, pp. 1–5, IEEE, 2011.

## Languages

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**English:** Fluent

**Bengali:** Native

**Hindi:** Fluent

**French:** Basic

## Computer skills

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**Programming:** Python, MATLAB, C, Fortran

**Publishing:** LaTeX

**Library:** Scikit-learn, NumPy, SciPy, Matplotlib

**Miscellaneous:** Git, Linux

## Volunteer work

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### Reviewer:

American Control Conference (2019)

Computer Science and Electronic Engineering Conference (2018, 2015)

International conference on Advances in Control and Optimization of Dynamic Systems (2014)

### Elected position: Vice-President of Facilities

McGill University - Electrical Engineering Graduate Student Society (EEGSS)

2016 – 2017

### International Student Buddy

McGill University - International Student Services

2015 – 2017