Shamak Dutta

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🏠 https://shamak.github.io

Education

2019–now   **PhD in Electrical and Computer Engineering**, *University of Waterloo*, Canada.
Advisor: Stephen L. Smith

2017–2019   **Masters in Systems Design Engineering**, *University of Waterloo*, Canada.
Advisors: Bryan Tripp & Graham Taylor
University of Waterloo Graduate Scholarship (2019)
Thesis: Correlated Noise in Deep Convolutional Neural Networks

2012–2017   **Bachelors in Computer Engineering**, *University of Waterloo*, Canada.
Engineering International Student Scholarship (2013)
President's Scholarship of Distinction (2013)
President's Research Award (2015)

Publications

2022   **An Improved Greedy Algorithm for Subset Selection in Linear Estimation**.
S. Dutta, N. Wilde, S. L. Smith
20th European Control Conference (ECC), 2018.

2018   **Convolutional Neural Networks Regularized by Correlated Noise**.
S. Dutta, B. Tripp, G. Taylor
15th Canadian Conference on Computer and Robot Vision (CRV), 2018.

2016   **Barcodes for Medical Image Retrieval Using Autoencoded Radon Transform**.
H. Tizhoosh, C. Mitcheltree, S. Zhu, and **S. Dutta**
23rd International Conference on Pattern Recognition (ICPR), 2016.

Research Experience

Summer 2018   **Research Intern**, *Preferred Networks*, Tokyo, Japan.
Advisors: Shunta Saito & Masaki Saito
Worked on scene prediction/generation.

Summer 2017   **Research Intern**, *Latent Logic (now Waymo)*, Oxford, United Kingdom.
Advisors: Joao Messias & Shimon Whiteson
Worked on 3D pose estimation from 2D video.

Fall 2016   **Research Intern**, *Amazon Search*, Palo Alto, USA.
Advisors: Bing Yin & Erick Cantu-Paz
Worked on ranking search queries on Amazon.com.

Summer 2016   **Undergraduate Student**, *Adaptive Systems Lab*, University of Waterloo, Canada.
Advisor: Dana Kulic
Worked on regression methods for human motion prediction.

Summer 2016   **Undergraduate Student**, University of Waterloo, Canada.
Advisor: Stephen L. Smith
Worked on heuristics for the Generalized Traveling Salesman Problem.

Fall 2015   **Undergraduate Student**, *KIMIA Lab*, University of Waterloo, Canada.
Advisor: Hamid Tizhoosh
Worked on image compression and retrieval.

Work Experience

Summer 2018	**Research Intern**, *Preferred Networks*, Tokyo, Japan.
Summer 2017	**Research Intern**, *Latent Logic (now Waymo)*, Oxford, UK.
Fall 2016	**Research Intern**, *Amazon Search*, Palo Alto, USA.
Winter 2016	**Software Engineer Intern**, *Amazon Advertising*, Palo Alto, USA.
Summer 2015	**Software Engineer Intern**, *Lookout Security*, San Francisco, USA.
Fall 2014	**Software Engineer Intern**, *Avvasi*, Waterloo, Canada.
Winter 2014	**Software Engineer Intern**, *Achievers Inc.*, Toronto, Canada.
Summer 2013	**Software Engineer Intern**, *pVelocity*, Toronto, Canada.

Teaching Experience

Winter 2022	**Teaching Assistant**, Algorithm Design & Analysis (ECE 406).
Fall 2021	**Teaching Assistant**, Probability Theory & Statistics II (ECE 307).
Winter 2021	**Teaching Assistant**, Algorithms & Data Structures (ECE 250).
Summer 2020	**Teaching Assistant**, Reinforcement Learning (ECE 493).
Winter 2020	**Teaching Assistant**, Algorithm Design & Analysis (ECE 406).

Courses

UW (Graduate): Estimation & Hypothesis Testing (L. Zeng), Introduction to Optimization (J. Geelen), Convex Analysis & Optimization (H. Wolkowicz), Stochastic Processes (W. Zhuang), Optimal Control (N. Azad), Stochastic Control (S. Smith), Model Predictive Control (Y. Pant), Computational Neuroscience (B. Tripp).

UW (Bachelors): Machine Learning (P. Poupart), Pattern Recognition (A. Wong), Quantum Mechanics (M. Reimer), Probability Theory (R. Mazumder), Robotics & Control (D. Kulic), Adaptive Algorithms (O. Basir), Computer Networks (S. Naik), Analog Communications (W. Zhuang), Analog Control (S. Smith), Compilers (V. Ganesh), Discrete Math (M. Pei).