Gromit Yeuk-Yin CHAN

11^{th} Floor, 370 Jay Street, Brooklyn, NY 11201

Email: gromit.chan@nyu.edu · Website: http://vgc.poly.edu/ yychan · Google Scholar: t7tR7O0AAAAJ

RESEARCH INTEREST

Visual Data Summarization: Reducing Visual Complexity of Large Scale Data (e.g. Graph, Time Series, and ML Models)
Scalable Algorithms for Machine Learning: Large Scale Interactive Recommender Systems in Distributed Computing
Human Computer Interaction: Visual Analytics Application Development

EDUCATION

2016 - 2021 **New York University**
Ph.D in Computer Science
Advisors: *Cláudio T. Silva, Juliana Freire*
Committee: *Enrico Bertini, Luis Gustavo Nonato, Arvind Satyanarayan*

2012 - 2016 **The Hong Kong University of Science and Technology**
BEng in Computer Engineering and BBA in General Business Management
Advisor: *Huamin Qu*

2005 - 2012 **Queen's College, Hong Kong**
Hong Kong Advanced Level Examination: *Distinction in Physics*

PROFESSIONAL EXPERIENCE

2020 May - Aug Research Intern, **Adobe Research (Data Science Lab)**, San Jose, CA

- Working with Dr Tung Mai, Dr Anup Rao, Dr Fan Du, and Dr Ryan Rossi on graph summaries for Look-alike modeling.

2019 Jun - Sep Research Intern, **Adobe Research (Systems Technology Lab)**, San Jose, CA

- Working with Dr Fan Du, Dr. Ryan Rossi, Dr Anup Rao and Dr Eunyee Koh on accelerating industry scale online customer clustering algorithms using data sketching techniques and distributed computing.
- Work patented and accepted to The Web Conference 2020 (Oral Presentation).

2019 Feb - Apr Visiting Scholar, **diNo Research Group (Paris Descartes University)**, Paris, France

- Worked with prof. Themis Palpanas on Large Scale Time Series Summarization and Visualization.
- Work submitted to VIS 2020.

2017 Jun- Sep Research Intern, **Bosch Research**, Palo Alto, CA

- Working with Dr Panpan Xu on Large Scale Bipartite Data Summarization and Visualization.
- Work accepted to VIS 2018 (TVCG Track).

2016 Aug - Now Research Assistant, **NYU VIDA (Visualization, Imaging, and Data Analytics Center)**, Brooklyn, NY

- Working with prof. Cláudio Silva and prof. Juliana Freire on data analysis, applications and visualization techniques on urban data.
- Work on topological data analysis on urban data accepted to SIGMOD 2017 (demo track).
- Work on healthcare application to understand limb coordination with nerve injuries accepted to VIS 2019 (TVCG track).
- Working with Capital One to summarize large scale local attributions from machine learning models. Work submitted to VIS 2020.

2015 Jun - 2016 Aug Undergraduate Researcher, **HKUST VisLab**, Hong Kong

- Research in Visual Analytics (one publication in BigComp and one in VIS).
- Honorable Mention in VAST Challenge 2015, 1st Runner Up UROP Award, Best Final Year Thesis (7 out of 90), and 2nd Runner Up in ASM Technology Award (Final Year Thesis Competition in Hong Kong)
- Implemented a financial news visualization system for Securities & Futures Commission of Hong Kong.

2015 Jan - May IT Consulting Intern, **IBM Global Business Services**, Hong Kong

- Identified the market, online strategy, synergy and supporting to increase the number of new and repeat buyers on Hong Kong Trade and Development Council's O2O multi-platform trading system.

2014 Jun - Aug Software Engineering Intern, **Orient Overseas Container Line (OOCL)**, Hong Kong

- Collaborated in a team of 10 in User Interface, servlet and back-end development of an ERP system.
- Bridged Hong Kong and Zhuhai office to reduce 50% scripts needed for online web applications.

2013 Sep - Dec Design Consulting Intern, **Harman Kardon**, Hong Kong

- Delivered marketing recommendation strategies on Harman's in-store point-of-purchase solution.
- Developed 3D-printed prototypes to visualize our Point-of-sale tools.

2013 Jun - July Logistics Intern, **GE Healthcare**, Beijing, China

- Monitored incoming quality control and handled receipts in the ERP system.

PUBLICATIONS (★ indicates premier venues)

In Submission:

1. Gromit Yeuk-Yin Chan, Luis Gustavo Nonato, Enrico Bertini, Brian Barr, and Cláudio T Silva.
   Melody: Visualizing Feature Importance Explanations At Scale To Understand Data and Classifiers Together.
   *IEEE transactions on visualization and computer graphics (**TVCG**)*, 2021
2. Gromit Yeuk-Yin Chan, Luis Gustavo Nonato, Themis Palpanas, Cláudio T Silva, and Juliana Freire.
   TiVy: Time Series Visual Summary for Scalable Visualization.
   *IEEE transactions on visualization and computer graphics (**TVCG**)*, 2021

Conferences and Journals:

1. Gromit Yeuk-Yin Chan, Tung Mai, Anup B Rao, Ryan A Rossi, Fan Du, Cláudio T Silva, and Juliana Freire.
   Interactive Audience Expansion On Large Scale Online Visitor Data.
   *International Conference on Knowledge Discovery and Data Mining (**KDD**)*, 2021 ★
2. Gromit Yeuk-Yin Chan, Fan Du, Ryan A Rossi, Anup B Rao, Eunyee Koh, Cláudio T Silva, and Juliana Freire.
   Real-Time Clustering for Large Sparse Online Visitor Data.
   *The Web Conference (**WWW**)*, 2020 (Accepted for **Oral Presentation**) ★
3. Gromit Yeuk-Yin Chan, Luis Gustavo Nonato, Alice Chu, Preeti Raghavan, Viswanath Aluru, and Cláudio T Silva.
   Motion Browser: Visualizing and Understanding Complex Upper Limb Movement Under Obstetrical Brachial Plexus Injuries.
   *IEEE transactions on visualization and computer graphics (**TVCG**)*, 2020 (Proceedings of VIS 2019) ★
4. Gromit Yeuk-Yin Chan, Panpan Xu, Zeng Dai, and Liu Ren.
   VIBR: Visualizing Bipartite Relations at Scale with the Minimum Description Length Principle.
   *IEEE transactions on visualization and computer graphics (**TVCG**)*, 2019 (Proceedings of VIS 2018) ★
5. Quan Li, Peng Xu, Yeuk-Yin Chan, Yun Wang, Zhipeng Wang, Huamin Qu, and Xiaojuan Ma.
   A Visual Analytics Approach for Understanding Reasons behind Snowballing and Comeback in MOBA Games.
   *IEEE transactions on visualization and computer graphics (**TVCG**)*, 2017 (Proceedings of VIS 2016) ★
6. Yeuk-Yin Chan and Huamin Qu.
   FinaVistory: Using Narrative Visualization to Explain Social and Economic Relationships in Financial News.
   *International Conference on Big Data and Smart Computing (**BigComp**)*, 2016

Workshops, Demos and Posters:

1. Yeuk-Yin Chan, Fernando Chirigati, Harish Doraiswamy, Cláudio T Silva, and Juliana Freire.
   Querying and Exploring Polygamous Relationships in Urban Spatio-Temporal Data Sets.
   *ACM International Conference on Management of Data (**SIGMOD**)*, 2017 (**Best Demo Honorable Mention**) ★
2. Rong Zheng and Yeuk-Yin Chan.
   You Like What You Hear: Using Movie Content to Improve Movie Recommender Systems.
   Winter Conference on Business Intelligence, 2016
3. Abishek Puri, Dongyu Liu, Shaoyu Chen, Siwei Fu, Tianyu Wang, Yeuk-Yin Chan, and Huamin Qu.
   ParkVis: A visual analytic system for anomaly detection in DinoFun World.
   IEEE VIS Workshop on VAST Challenge, 2015

PATENTS

1. Dynamic Clustering of Sparse Data Utilizing Hash Partitions. Filed in 2020.
2. Methods and Systems for Simplified Graphical Depictions of Bipartite Graphs. US Patent 10,650,559, 2020.

TEACHING

2020 Spring	CS-GY 9223 Visualization for Machine Learning (15 students)
2020 Spring	CS-GY 9223 Visualization: Connections with Machine Learning (23 students)
2018 Fall	CS-GY 6313 Information Visualization (46 students)
2016 Fall	CS-UY 1134 Data Structures and Algorithms (51 students)

PROFESSIONAL SERVICES

Reviewer:

- ACM CHI: 2021
- IEEE VIS (InfoVis and VAST): 2019, 2020
- WWW: 2020
- EuroVis: 2017, 2019, 2020
- PacificVis: 2020
- IEEE CG&A
- IEEE TVCG

PRESENTATION, NEWS AND MEDIA COVERAGE

2021	*Data Summaries for Scalable Visual Analysis* Dataminr, New York
2021	*Data Summaries for Scalable Visual Analysis* Megagon Labs, Mountain View
2020	*Data Summaries for Scalable Visual Analysis* Adobe Research, San Jose
2020	*Real-Time Clustering for Large Sparse Online Visitor Data* The Web Conference, Taipei
2019	*Visualizing and Understanding Complex Upper Limb Movement Under Obstetrical Brachial Plexus Injuries* IEEE VIS, Vancouver
2018	*Visualizing Bipartite Relations at Scale with the Minimum Description Length Principle* AT&T Graduate Student Symposium, New York City
2018	*Visualizing Bipartite Relations at Scale with the Minimum Description Length Principle* IEEE VIS, Berlin
2016	Student Hackers Team Up with Manhattan DA to Fight Human Trafficking
2016	科網雲圖：財經新聞大數據 (in Chinese)
2016	科大生研大數據 獲邀海外演講 (in Chinese)

AWARDS/HONORS/CERTIFICATIONS

2018	VIS Student Volunteer
2017	SIGMOD Student Travel Grant
2016	NYU School of Engineering Fellowship
2016	Bronze Prize of ASM Technology Award
2016	Mr Armin and Mrs Lillian Kitchell Undergraduate Research Award
2016	Technology and Management Elite Student Scholarship
2015	Honorable Mention, IEEE VAST (Visual Analytics Science and Technology) Challenge 2015
2013	HKSAR Government Scholarship Fund - Reaching Out Award
2012	University Entrance Scholarship, HKUST
2012	Morrison Distinction Price, Queen's College

PERSONAL

Computer Skills (that I used often):

- Web Interactive Prototyping: Javascript, Flask
- Geometric Modeling and Computer Graphics: OpenGL, Eigen, libigl, d3.js
- Big Data Computing: MapReduce, Spark, MLlib, Numpy, c++, Matlab

Language: English (professional) (IELTS 8.0), Cantonese (native), Mandarin (native)

Hobbies: Piano (ABRSM Grade 8), Driving, Cycling, Travelling