Guangyuan **Piao**

LECTURER / ASSISTANT PROFESSOR

Maynooth University, Co. Kildare, Ireland

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"A man is not old as long as he is seeking something. A man is not old until regrets take the place of dreams"

Experience

Maynooth University   *Maynooth, Co. Kildare, Ireland*

LECTURER/ASSISTANT PROFESSOR   *Sep. 2020 - Present*

- Teaching modules such as CS Final Year Projects

Nokia Bell Labs   *Dublin, Ireland*

RESEARCH SCIENTIST   *Sep. 2018 - Aug. 2020*

- Engage with several business units internationally to provide right AI solutions in the context of communication systems
- Machine/deep learning for anomaly detection, fault diagnosis, time series analysis in communication systems
- Projects are selected and presented in NOKIA AI Conference (**26% acceptance rate**) with the impact on business units
- Supervised several PhD students and the research outcome is under submission of top-tier conferences such as ICDM
- Present research and engage with research institutions in Ireland such as UCC, CIT, and CONNECT@TCD
- Writing research proposals and applying PhD research funding with academic collaborators

Insight Centre for Data Analytics   *Galway, Ireland*

PH.D RESEARCHER   *Jul. 2014 - Jul. 2018*

- Social media data analysis with the focus on mining user interests
- Participated W3C Social Web Working Group
- Contributed to the SIOC Core Ontology Specification: `http://rdfs.org/sioc/spec/`
- Initiated and contributed to the Google Schema.org Course extension: `https://goo.gl/9j1JxZ` for modeling MOOCs
- Supervised visiting Bachelor/Master interns
- Participated writing research grant proposals such as one for European Commission

National University of Ireland Galway   *Galway, Ireland*

TEACHING ASSISTANT (CT619: OBJECT-ORIENTED PROGRAMMING)   *Sep. 2015 - Nov. 2015*

- Led lab section of 30+ undergraduate students
- Guided students on programming homework and lab assignments
- Provided feedback to improve programming techniques and efficiency

Hyundai Mobis   *Seoul, S.Korea*

IT ADMINISTRATIVE ASSISTANT   *Oct. 2011 - Apr. 2014*

- IT project planning (including estimating budget, man-hours, and period) and execution with outsourcing company employees based on in-house business requirements
- IT project management for **10+** in-house business and security systems used by over **20,000** employees
- Projects: ARS Authentication Improvement (2013)   Database Access Control System Implementation (2013)
  M-Books - Toward Paperless Working Environment (2012)   NAC Replication for **18** overseas subsidiaries (2012)

SmartWeb Lab, Yonsei University   *Seoul, S.Korea*

RESEARCH MASTER   *Mar. 2010 - Feb. 2012*

- Participated writing national research grant proposals
- Designed a combined neural network model to detect and discriminate sound signals to classify the sound label (e.g., human, vehicle, etc.) in the context of a security application

Yonsei University   *Seoul, S.Korea*

TEACHING ASSISTANT (GET6109: SEMANTIC WEB FOR BUSINESS)   *Sep. 2011 - Oct. 2011*

- Assistant lecture of 50+ master students
- Supervised student examinations and graded work submissions

BitDot Lab   *Seoul, S.Korea*

WEB APP DEVELOPER   *Aug. 2010 - Feb. 2011*

- Developed the **first** iPad magazine in South Korea – "Episode". **Ranked top** in the iOS App Store of South Korea with **70k+** subscribers.

http://trade.bizforms.co.kr & http://www.transguy.co.kr   *Seoul, S.Korea*

FREELANCE TRANSLATOR & PROGRAMMER   *Jun. 2010 - Jun. 2011*

- One of the best rated freelance translator (English, Korean, Chinese) and programmer (mainly JAVA and JSP)

Yanbian University of Science and Technology   *Yanji, China*

ASSISTANT LECTURER (SOLUTION SPECIALIST TRAINING COURSES: JAVA, J2EE DEVELOPMENT, DATABASE, SWING)   *Jun. 2009 - Feb. 2010*

- Assistant lecture of 60+ undergraduate students
- Guided students on homework, lab assignments, and final team projects

Education

Insight Centre for Data Analytics (DERI), National University of Ireland Galway   *Galway, Ireland*

PH.D IN ENGINEERING AND INFORMATICS (GPA: A)   *Jul. 2014 - Jul. 2018*

- Thesis: Semantics-Aware User Modeling and Recommender Systems in Microblogging Social Networks
- Committee: <u>John G. Breslin</u> (Supervisor), <u>Harith Alani</u> (External) and <u>Dietrich Rebholz-Schuhmann</u> (Internal)

7th Lisbon Deep Learning School (LxMLS)   *Lisbon, Portugal*

DEEP LEARNING, NATURAL LANGUAGE PROCESSING   *Jul. 2017*

Yonsei University   *Seoul, S. Korea*

MASTER IN INFORMATION AND INDUSTRIAL ENGINEERING (GPA: 4.15/4.3)   *Mar. 2010 - Feb. 2012*

- Thesis: Ontology-based Optimization Modeling for Distributed and ad-hoc Business Problems using SWCL
- Committee: <u>Wooju Kim</u> (Supervisor), <u>June S. Hong</u> (External) and <u>Changouk Kim</u> (Internal)

Jilin University   *Jilin, China*

BACHELOR IN COMPUTER SCIENCE   *Sep. 2005 - Jul. 2009*

Honors & Awards

2020	**4th Place**, COVID-19 Retweet Prediction Challenge at CIKM AnalytiCup	*Galway, Ireland*
2019	**Outstanding Achievement Award**, Nokia Bell Labs	*Dublin, Ireland*
2018	**1st Place**, Semantic Sentiment Analysis Challenge at ESWC (SSA@ESWC)	*Crete, Greece*
2018	**Best Paper Award**, The 1st Workshop on Deep Learning for Knowledge Graphs at ESWC	*Crete, Greece*
2016	**Best Paper Award**, The 12th International Conference on Semantic Systems (SEMANTiCS)	*Leipzig, Germany*
2016	**Finalist**, 31st ACM SAC Student Research Competition (sponsored by Microsoft)	*Pisa, Italy*
2015	**4th Place**, Data Challenge on "Entity Type Prediction over Linked Data" (followed by PKU, THU, and Fujitsu R&D) at the 5th Joint International Semantic Technology Conference (JIST)	*Yi Chang, China*
2015	**Best Paper Candidates**, The 5th Joint International Semantic Technology Conference (JIST)	*Yi Chang, China*
2009	**President Award Certificate**, Yanbian University of Science and Technology	*Yanji, China*

Program Committees/Reviewers

- **AAAI** - AAAI Conference on Artificial Intelligence (2021)
- **CIKM** - International Conference on Information and Knowledge Management (2020)
- **Middleware** (2019)
- **EuCNC** - European Conference on Networks and Communications (2019)
- **ISWC** - International Semantic Web Conference (2018, 2017)
- **ESWC** - Extended Semantic Web Conference (2020-2017)
- Workshop on Educational Recommender Systems at Web Intelligence (2016)
- Cognitive Systems Research

Publications (Google Scholar)

PAPERS

- **G. Piao**, W. Huang, "*Regression-enhanced Random Forests with Personalized Patching for COVID-19 Retweet Prediction*", CIKM AnalytiCup at International Conference on Knowledge and Management (**CIKM**), 10/2020

- G. Premsankar, **G. Piao**, P. Nicholson, M. Di Francesco and D. Lugones, "*LESS: A Lightweight Energy Saving System for Cellular Networks*", (under review at **SIGMETRICS**), 2020.

- S. Chaubal, M. Rzepecki, P. Nicholson, **G. Piao**, A. Sala, "*Geometric Heuristics for Transfer Learning with Decision Trees*", (under review at **AAAI**), 2020.

- F. Zarrinkalam, S. Faralli, **G. Piao** and E. Bagheri, "*Mining User Interests from Social Media*", [**Tutorial**] International Conference on Information and Knowledge Management (**CIKM**), 2020.

- F. Zarrinkalam, S. Faralli, **G. Piao** and E. Bagheri, "*Extracting, Mining and Predicting Users' Interests from Social Media*", [**Tutorial**] International Joint Conference on Artificial Intelligence (**IJCAI**), 2020.

- **G. Piao**, P. Nicholson, D. Lugones, "*Env2Vec: Accelerating VNF Testing with Deep Learning*", The European Conference on Computer Systems (**EuroSys, 18% acceptance rate**), Crete, Greece, 04/2020.

- F. Zarrinkalam, S. Faralli, **G. Piao** and E. Bagheri, "*Extracting, Mining and Predicting Users' Interests from Social Media*", (**Foundations and Trends@ in Information Retrieval, IF:3.5**), 2020

- W. Huang, **G. Piao**, R. Salinas, N. Hurley, "*Evaluating Hierarchies through A Partially Observable Markov Decision Processes Methodology*", `https://arxiv.org/pdf/1908.07031.pdf`, (Accepted at **ACML2020**) 2019.

- W. Huang, N. Laitonjam, **G. Piao**, N. Hurley, "*Bayesian Hierarchical Mixture Clustering using Multilevel Hierarchical Dirichlet Processes*", `https://arxiv.org/pdf/1905.05022.pdf`, (under review at **AAAI2020**) 2019.

- **G. Piao**, "*Semantics-aware User Modeling and Recommender Systems in Online Social Networks*", **PhD Thesis**, National University of Ireland Galway, 2018.

- **G. Piao** and J. G. Breslin, "*Domain-Aware Sentiment Classification with GRUs and CNNs*" [**1st Place**] . The Semantic Sentiment Analysis challenge at the 15th Extended Semantic (**ESWC**), Crete, Greece, 06/2018

- **G. Piao** and J. G. Breslin, "*Learning to Rank Tweets with Author-based Long Short-Term Memory Networks*". The 18th International Conference on Web Engineering (**ICWE**), Caceres, Spain, 06/2018

- **G. Piao** and J. G. Breslin, "*A Study of the Similarities of Entity Embeddings Learned from Di erent Aspects of a Knowledge Base for Item Recommendations*" [**Best Paper Award**] . The 1st Workshop on Deep Learning for Knowledge Graphs and Semantic Technologies at the 15th Extended Semantic Web Conference (**ESWC**), Crete, Greece, 06/2018

- **G. Piao** and J. G. Breslin, "*Learning to Rank Tweets with Author-based Long Short-Term Memory Networks*". The 18th International Conference on Web Engineering (**ICWE**), Caceres, Spain, 06/2018

- **G. Piao** and J. G. Breslin, "*Inferring User Interests in Microblogging Social Networks: A Survey*". `https://arxiv.org/abs/1712.07691`. User Modeling and User-Adapted Interaction (**UMUAI, IF:3.4**), 2018

- **G. Piao** and J. G. Breslin, "*Transfer Learning via A Co-Factorization Model for Item Recommendations and Knowledge Graph Completion in Item Related Domains*". The 15th Extended Semantic Web Conference (**ESWC, 26.8% acceptance rate**), Crete, Greece, 06/2018

- **G. Piao** and J. G. Breslin, "*Financial Aspect and Sentiment Predictions with Deep Neural Networks: An Ensemble Approach*". Financial Opinion Mining and Question Answering Workshop at The Web Conference (**WWW**), Lyon, France, 04/2018

- **G. Piao** and J. G. Breslin, "*Factorization Machines Leveraging Lightweight Linked Open Data-enabled Features for Top-N Recommendations*". The 18th International Conference on Web Information Systems Engineering (**WISE, 25% acceptance rate**), Moscow, Russia, 07/10/2017

- **G. Piao** and J. G. Breslin, "*Leveraging Followee List Memberships for Inferring User Interests for Passive Users on Twitter*". The 28th ACM Conference on Hypertext and Social Media (**Hypertext, 27% acceptance rate**), Prague, Czech Republic, 04/07/2017

- **G. Piao** and J. G. Breslin, "*Inferring User Interests for Passive Users on Twitter by Leveraging Followee Biographies*". The 39th European Conference on Information Retrieval (**ECIR, 26.7% acceptance rate**), Aberdeen, UK, 08/04/2017

- **G. Piao** and J. G. Breslin, "*Interest Representation, Enrichment, Dynamics, and Propagation: A Study of the Synergistic Effect of Different User Modeling Dimensions for Personalized Recommendations on Twitter*". The 20th International Conference on Knowledge Engineering and Knowledge Management (**EKAW, 17.3% acceptance rate for long presentations**), Bologna, Italy, 19/11/2016

- **G. Piao** and J. G. Breslin, "*User Modeling on Twitter with WordNet Synsets and DBpedia Concepts for Personalized Recommendations*". The 25th ACM International Conference on Information and Knowledge Management (**CIKM, 23.5% acceptance rate**), Indianapolis, USA, 24/10/2016

- **G. Piao** and J. G. Breslin, "*Exploring Dynamics and Semantics of User Interests for User Modeling on Twitter for Link Recommendations*" [**Best Paper Award**]. The 12th International Conference on Semantic Systems (**SEMANTiCS, 21% acceptance rate**), Leipzig, Germany, 12/09/2016

- **G. Piao**, "*Towards Comprehensive User Modeling on the Social Web for Personalized Recommendations*". The Doctoral Consortium at the 24th Conference on User Modeling, Adaptation and Personalization (**UMAP**), Halifax, Canada, 13/07/2016

- **G. Piao** and J. G. Breslin, "*Analyzing Aggregated Semantics-enabled User Modeling on Google+ and Twitter for Personalized Link Recommendations*". The 24th Conference on User Modeling, Adaptation and Personalization (**UMAP, 28% acceptance rate**), Halifax, Canada, 13/07/2016

- **G. Piao** and J. G. Breslin, "*Measuring Semantic Distance for Linked Open Data-enabled Recommender Systems*". The 31st ACM/SIGAPP

Symposium on Applied Computing (**SAC, 24% acceptance rate**), Pisa, Italy, 04/04/2016

- **G. Piao**, S. S. Ara and J. G. Breslin, "*Computing the Semantic Similarity of Resources in DBpedia for Recommendation Purposes*" [**Best Paper Candidate**]. The 5th Joint International Semantic Technology Conference (**JIST, 33% acceptance rate**), Yichang, China, 12/11/2015

- **G. Piao** and W. Kim, "*Introduction to IPad Application Development with PhoneGap*". International Journal of Innovation, Management, and Technology, 2013

- **G. Piao**, "*An Ontology-based Optimization Modeling System for Ad-hoc Business Problems*". Master's Thesis, Yonsei University, 2012

- **G. Piao**, Y, Y and W. Kim, "*Semantic Web Constraint Language Complement and the Editor Development in Protege*". Korean Society of IT Service (Domestic Conference), 2011

Posters

- **G. Piao** and J. G. Breslin, "*Analyzing MOOC Entries of Professionals on LinkedIn for User Modeling and Personalized MOOC Recommendations*". The 24th Conference on User Modeling, Adaptation and Personalization (**UMAP**), Halifax, Canada, 13/07/2016

- **G. Piao** and J. G. Breslin, "*DBQuote: A Social Web based System for Collecting and Sharing Wisdom Quotes*". The 5th Joint International Semantic Technology Conference (**JIST**), Yichang, China, 12/11/2015

Supervised Students

2020	**Yuntian He (Internship @BellLabs)**, PhD, Ohio State University, US
2019	**Gopika Premsankar (Internship @BellLabs)**, PhD, Aalto University, Finland
2019	**Siddhesh Chaubal (Internship @BellLabs)**, PhD, University of Texas, US
2018	**Alessia Antelmi (Internship @Insight)**, Master, University of Salerno, Italy
2016	**Nitish Mittal (Internship @Insight)**, Undergraduate, Netaji Subhas Institute of Technology

Grants

2017	**Hypertext Student Travel Award**, SIGWEB
2016	**UMAP Student Travel Award**, UMAP Inc., Microsoft & Google
2016	**SAC Student Research Competition Travel Award**, ACM SAC & Microsoft
2015	**UMAP Student Travel Award**, UMAP Inc.
2014	**Ph.D Scholarship (4 years)**, SAP and SFI
2011	**Scholarship for International Students**, Yonsei Uni.
2011	**Fund Scholarship (2 among all applicants)**, Yonsei Uni.
2010	**Scholarship for International Students**, Yonsei Uni.
2010	**ICMIT Travel Grant**, The Ministry of Knowledge Economy & Korea Industrial Tech. Foundation