

## EDUCATION

### University of Pittsburgh, PA, USA

*Ph.D., Information Science Program, GPA: 3.986/4.0*

*Graduation: Dec. 2023*

Advisor: Dr. Peter Brusilovsky; Co-advisor: Dr. Morgan R. Frank

Dissertation Title: *Explainable Course Recommendation: Connecting College Education to Knowledge and Careers Through Skills*

Committee: Dr. Peter Brusilovsky, Dr. Morgan R. Frank, Dr. Daqing He, Dr. Zachary A. Pardos

### University of Information Technology, Ho Chi Minh City, Vietnam

*M.S., Computer Science*

*Graduation: Feb. 2015*

Advisor: Dr. Nhon Do

### University of Information Technology, Ho Chi Minh City, Vietnam

*B.S., Computer Science, Honors Program, rank: 2/101*

*Graduation: Feb. 2011*

Advisor: Dr. Nhon Do

## RESEARCH INTERESTS

Large Language Models and Conversational AI  
Machine Learning and Deep Learning  
Educational Data Mining and Pattern Discovery  
Natural Language Processing (Knowledge Extraction and Representation)  
Personalized Ranking and Recommendation

## SKILLS

- Languages: Python, Java, R, Matlab, NodeJS, C++, C# .Net, SQL, HTML, CSS, JavaScript, Maple
- Deep Learning toolkits: TensorFlow, Pytorch, Keras
- Machine Learning toolkits: scipy, scikit-learn, statsmodels, CatBoost, SVM-light, R packages
- Toolkits: Langchain, OpenAI, RAGAS, HuggingFace, numpy, matplotlib, t-SNE, NLTK, Spacy, Stanford NLP, D3.js, Git

## INDUSTRY EXPERIENCE

### Zillow Group, Seattle, USA

Jan 2022 – Now

Applied Scientist

Working on NLP search, personalized ranking, LLMs, RAG and conversational AI

**Technical skills:** Python, PySpark, PyTorch, AWS, Langchain, OpenAI, RAGAS, HuggingFace, statsmodels. CatBoost, scikit-learn, Kubeflow

### Zillow Group, Seattle, USA

May 2020 – Aug 2020

Applied Scientist Intern

Working on using *user engagement data* to define demand signals on the real estate market to improve *resale prediction* values

**Technical skills:** Python, PySpark, AWS, statsmodels. CatBoost, scikit-learn

### Zillow Group, Seattle, USA

Sep 2019 – May 2020

Applied Scientist Intern

Working on *keyphrase collections* and *extraction* for home listing descriptions for rental and house seekers

**Technical skills:** Python, PyTorch, AWS, NLTK, Spacy, Stanford NLP toolkits, Gensim

### Zillow Group, Seattle, USA

May 2019 – Aug 2019

Machine Learning Engineer Intern

Applied *deep learning* techniques and *regular expressions* to detect customers' personal identifiable information (*PII*) to protect their privacy in a *big data* setting

**Technical skills:** PyTorch, Python, AWS, NLTK, SQL, Airflow

### Lac Viet Computing Corporation, Vietnam

Mar 2013 – Sep 2015

Part-time software Engineer

Worked on *mobile applications* on Windows Phone OS such as Lac Viet Dictionary, Lac Viet Reader, Words Usage Practice, etc.

**Technical skills:** C# .Net, Windows Phone, Silverlight, SQLite

## RESEARCH EXPERIENCE

Member of “*Development and Implementation of a Health E-Librarian with Personalized Recommendations (HELPeR)*” project, funded by National Institutes of Health (NIH) U.S, led by Dr. Young Ji Lee, Dr. Peter Brusilovsky and Dr. Daqing He. Working on *extracting concepts* in medical text documents using *NLP* and *ML classification* and *deep sequential models*, and working on *personalized recommendation*.

**Technical skills:** Python, PyTorch, Spacy, Stanford POS tagger, scikit-learn, SVMlight, matplotlib, Jupyter notebook  
(01/2020 – 05/2020)

Collaborating with Dr. Zachary Pardos in “*Improving Articulation of Credit and Transfer Student Support at CUNY*” project. Working on **learning representation** and **semi-supervised/unsupervised machine translation** techniques to articulate courses for multiple institutes in New York city.

**Technical skills:** PyTorch, Keras, Python, matplotlib, t-SNE, D3 visualization library, Jupyter notebook  
(09/2019 – 01/2020)

Collaborated with Dr. Zachary Pardos in “*Deep Learning in Higher Education Big Data to Explore Latent Student Archetypes and Knowledge Profiles*” project. Working on **learning representation** and **supervised machine translation** techniques to find equivalent courses across colleges.

**Technical skills:** Keras, Python, matplotlib, t-SNE, D3 visualization library, Jupyter notebook  
(05/2018 – 08/2019)

Member of “*Open Corpus Personalized Learning*” project, funded by National Science Foundation (NFS), U.S, led by Dr. Peter Brusilovsky and Dr. Daqing He. Working on **extracting concepts** in textbooks using **NLP** and **ML classification models**, and working on **predicting student performance** in class.

**Technical skills:** Java, Python, HTML, Javascript, SQL, Stanford POS tagger, scikit-learn, SVMlight, matplotlib, R, R Markdown, Jupyter notebook  
(08/2016 – 09/2019)

Member of “*Researching and Developing the Sematic-based Solution for Learning Resources Management*” project, funded by VNU-HCM, worked on revising and improving the CK-ONTO model in as **document retrieval** system design.

**Technical skills:** HTML, Javascript, C# .Net, SQL  
(06/2014 – 06/2015)

## PUBLICATIONS

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**Hung Chau** (2024)

*Explainable Course Recommendation: Connecting College Education to Knowledge and Careers Through Skills*  
University of Pittsburgh 2024

**Hung Chau**, Sarah H. Bana, Baptiste Bouvier, Morgan R. Frank (2023)

*Connecting Higher Education to Workplace Activities and Earnings*  
PLOS One 2023

Mengdi Wang\*, **Hung Chau\***, Khushboo Thaker, Peter Brusilovsky, Daqing He (2021)

*Knowledge Annotation for Intelligent Textbooks*  
Journal of Technology, Knowledge and learning (TKNL) 2021

Run Yu, Zach Pardos, **Hung Chau**, Peter Brusilovsky (2021)

*Orienting Students to Course Recommendations Using Three Types of Explanation*  
Adjunct Proceedings of the 29th Conference on User Modeling, Adaptation & Personalization, June 21-25, 2021, Utrecht, Netherlands

**Hung Chau**, Saeid Balaneshin, Kai Liu, Ondrej Linda (2020)

*Understanding the Tradeoff between Cost and Quality of Expert Annotations for Keyphrase Extraction*  
The 14th Linguistic Annotation Workshop (COLING 2020), Dec 12, 2020, Barcelona, Spain

**Hung Chau**, Igor Labutov, Khushboo Thaker, Daqing He, Peter Brusilovsky (2020)

*Automatic Concept Extraction for Domain and Student Modeling in Adaptive Textbooks*  
International Journal of Artificial Intelligence in Education (JAIED) 2020

Behnam Rahdari, Peter Brusilovsky, Khushboo Thaker, **Hung Chau** (2020)

*CovEx: An Exploratory Search System for COVID-19 Scientific Literature*  
The 3rd International workshop on Epidemiology meets Data Mining and Knowledge discovery, Aug 24, 2020, San Diego, CA, USA

Zachary Pardos, **Hung Chau**, Marshall Zhao (2019)

*Data-Assistive Course-to-Course Articulation Using Machine Translation*  
Proceedings of the 6th ACM Conference on Learning @ Scale (L@S) June 24-25, 2019, Chicago, Illinois, USA [**Best paper award**]

**Hung Chau**, Jordan Barria-Pineda, Peter Brusilovsky (2018)

*Course-Adaptive Content Recommender for Course Authoring*  
Proceedings of the 14th European Conference on Technology Enhanced Learning (EC-TEL), September 06-09, 2018, Leeds, UK

**Hung Chau**, Jordan Barria-Pineda, Peter Brusilovsky (2018)

*Course-Adaptive Content Recommender System for Instructors of Programming Courses*  
Proceedings of the 19th International Conference on Artificial Intelligence in Education (AIED), June 27-30, 2018, London, UK

**Hung Chau**, Jordan Barria-Pineda, Peter Brusilovsky (2017)

*Content Wizard: Concept-Based Recommender System for Instructors of Programming Courses*  
Adjunct Proceedings of the 25th Conference on User Modeling, Adaptation & Personalization, July 09-12, 2017, Bratislava, Slovakia

**Hung Chau\***, Ang Li\* and Yu-Ru Lin (2017)

*Predicting Students Performance Based on Their Reading Behaviors*  
Online Proceedings of SBP-BRiMS 2017, July 05-8, 2017, Washington DC, USA

Nhon V. Do, TruongAn PhamNguyen, **Hung K. Chau**, ThanhThuong T. Huynh (2015)

*Improved semantic representation and search techniques in a document retrieval system design*  
Journal of Advances in Information Technology, Volume 6, No. 3, August, 2015, USA

Nhon Do Van, **Hung Chau**, Van Ho Long (2011)  
*An Intelligent Educational Software for Automatic Problem Solving in Linear Algebra*  
In Proceedings of ICCSE 2011, August 3 - 5, 2011, Singapore

## HONORS AND AWARDS

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- Best Paper Award at ACM Conference on Learning @ Scale 2019
- 03/2016: Vietnam Education Foundation (an independent U.S. Federal Government agency created by the U.S. Congress) 2015 Fellow
- 11/2009: “SINH VIEN 3 TOT” certificate for excellent performance in Academic Accomplishment, Studiousness, and Physical; awarded by HCM Communist Youth Union
- 2009: The SMBC Global Foundation Scholarship Award; Institute of International Education
- 2007 – 2009: Certificates of Satisfactory Progress from the rector of UIT by having excellent academic accomplishment and studiousness

## CERTIFICATES

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- LearnLab: Simon Initiative Summer School at CMU. Advised by Dr. Zach Pardos, University of California at Berkeley

## OTHERS

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- Github: <https://github.com/HungChau>
- HuggingFace: <https://huggingface.co/HungChau>
- Google Scholar: <https://scholar.google.com/citations?user=eqdfdmIAAAAJ&hl=en>