# 邝东阳

Curriculum Vitae

Live in the moment. Learn from the past. Dream for the future.

## 基本情况

**出生年月**： 1989 年 5 月 29 日

**个人网站**： https://dykuang.github.io

**电子邮箱**： dykuang@outlook.com

**Github**： https://github.com/dykuang

**LinkedIn**： https://www.linkedin.com/in/dykuang

## 工作经历

### 博士后 *2019.08-present*

**Oden Institute for Computational Engineering & Sciences** **University of Texas at Austin**

- 高能物理数据库和数据平台的建立，数据分析，机器学习深度学习模型及工具的开发

### 博士后 *2017.09-2019.07*

**Data Science and Machine Learning Group** **University of Ottawa**

- 本科生教学，硕士生辅导
- 深度学习工具在医疗图像和非线性动态系统中的应用
- Affiliation Award with Vector Institute Toronto for Artificial Intelligence.（未领取）

### 访问助理教授 *2016.08-2017.06*

**Dept. of mathematics** **Southern Utah University**

- 本科生教学，系内课题研究

## 教育背景

### 博士(数学) GPA：3.956/4.00 *2012.01-2016.08*

University of Wyoming, Laramie, Wyoming

- 毕业论文：A Particle Method for Euler-Poincare Equation and Its Applications in Analysis of Landmark Based Image Templates.

- 导师：Prof. Long Lee. Dept. of Mathematics. University of Wyoming.

| 本科 (数学) | GPA：3.50/4.30 | *2007.09-2011.06* |
|---|---|---|
| 中国科学技术大学，安徽合肥 | 排名：29/100 | |

- ■ 毕业论文：Numerical Integration of Two Variables Based on Small Amounts of Sample Points.

- ■ 导师：Prof. 邓建松. 中国科学技术大学，安徽合肥

## 会议论文

- ■ **Cycle-consistent training for Reducing Negative Jacobian Determinant in Deep Registration Networks**.

  *Dongyang Kuang*

  Simulation and Synthesis in Medical Imaging (SASHIMI) 2019

  *LNCS, vol 11827, pp. 1-10, 2019.*

  In conjunction with MICCAI 2019, October 13, 2019, Shenzhen, China

  https://doi.org/10.1007/978-3-030-32778-1 13

- ■ **FAIM - A ConvNet Method for Unsupervised 3D Medical Image Registration.**

  *Dongyang Kuang and Tanya Schmah*

  Machine Learning in Medical Imaging (MLMI) 2019.

  *LNCS vol 11861, pp. 1-9, 2019.*

  In conjunction with MICCAI 2019, October 13, 2019, Shenzhen, China

  *https://doi.org/10.1007/978-3-030-32692-0 74*

## 杂志论文

- ■ **Dual stream neural networks for brain signal classification**

  *Dongyang Kuang and Craig Michoski*

  Journal of Neural Engineering.

  DOI: https://doi.org/10.1088/1741-2552/abc903

- ■ **Kinetics and mechanism of $CO_2$ gasification of coal catalyzed by $Na_2CO_3$, $FeCO_3$ and $Na_2CO_3 - FeCO_3$**

  *Bang Xu, Qingxi Cao, Dongyang Kuang, Khaled.A.M.Gasem, Hertanto Adidharma, Dong Ding and Maohong, Fan\*.*

  Journal of the Energy Institute.

  *Volume 93, Issue 3, pp 922-933, 2020*

- ■ **Landmark-based algorithms for group average and pattern recognition.**

  *Snehalata Huzurbazar, Dongyang Kuang\* and Long Lee*

  Pattern Recognition

  *Volume 86, pp 172-187. 2019*

- ■ **Some optional methods of activation energy determination on pyrolysis**

  *Bang Xu and Dongyang Kuang\**

  Kinetics and Catalysis.

  *Volume 60. No. 2. 137-146. 2019.*

- ■ **Predicting kinetic triplets using a 1d convolutional neural network.**

  *Dongyang Kuang and Bang Xu\**

  Thermochimica Acta

  *Volume 669, pp 8-15. 2018*

- **A geodesic landmark shooting algorithm for template matching and its applications.**
  *Roberto Camassa, Dongyang Kuang\* and Long Lee*
  SIAM Journal on Imaging Sciences.
  *Volume 10, Issue 1, pp 303-334. 2017*

- **Characterization of Powder River Basin coal pyrolysis with cost-effective and environmentally friendly composite Na-Fe catalysts in a thermogravimetric analyzer and a fixed-bed reactor**
  *Bang Xu, Dongyang Kuang, Fangjing Liu, Wenyang Lu, Alexander K.Goroncyc, Ting He, Khaled Gasem and Maohong Fan\**
  International Journal of Hydrogen Energy.
  *Volume 43, Issue 14, pp 6918-6935. 2018*

- **Solitary waves and N-particle algorithms for a class of Euler-Poincar´e equations.** *(Highlights of the Year 2016)*
  *Roberto Camassa, Dongyang Kuang\* and Long Lee*
  Studies in Applied Mathematics.
  *Volume 137, Issue 4. pp 502-546. 2016*

- **A conservative formulation and a numerical algorithm for the doublegyre nonlinear shallow-water model.**
  *Dongyang Kuang and Long Lee\**
  Numerical Mathematics: Theory, Methods and Applications.
  *Volume 8. Issue. 4. pp 634-650. 2015*.

## 在投论文

- **A 1d convolutional network for leaf and time series classification.**

- **SEER-Net: a simple EEG-based emotional recognition network.**

## 学术项目

- 开发针对网络课程中学生注意力变化的实时分析工具　　　　　　　　　　　　　2020.11 –
  　　　　　　　　　　　　　　　　Oden Institute, University of Texas at Austin, USA

  负责人：Craig Michoski

- 开发针对等离子体线性实验(PLX)的数据分析工具　　　　　　　　　　　　　　2019.11 –
  　　　　　　　　　　　　　　　　Oden Institute, University of Texas at Austin, USA

  负责人：Craig Michoski

- 基于 EEG 信号的人机识别任务　　　　　　　　　　　　　　　　　　　　　2019.10 –
  　　　　　　　　　　　　　　　　Oden Institute, University of Texas at Austin, USA

  负责人：Craig Michoski

- 数据库的开发，数据平台的搭建，机器学习，深度学习工具　　　　　　　　　2019.08 –
  　　　　　　　　　　　　　　　　Oden Institute, University of Texas at Austin, USA

  负责人：David Hatch, Craig Michoski

- 深度学习在医疗图像和非线性动态系统的应用　　　　　　　　　　　　2017.09 – 2019.05
  　　　　　　　　Data Science and Machine Learning Group, University of Ottawa, Canada

  负责人：Tanya Schmah, Cristina Stoica

- 便携式设备中基于 Raman 波谱的物质检测　　　　　　　　　　　　　2018.05 – 2018.06
  　　　　　　NRC-Ottawa Industrial Problem Solving Workshop, National Research Council, Ottawa, Canada

- 基于转动惯量方法的卫星姿势制御的可视化　　　　　　　　　　　　　2017.10 – 2017.11
  　　　　　　　　　　　　Dept. of mathematics and Statics. University of Ottawa, Canada

  负责人：Tanya Schmah, Cristina Stoica

- 深度学习方法在生物质热重实验中的应用及新方法的开发　　　　　　　　　　2017.07 –
  　　　　　　　　　　　　　　　　　　　　　　　　　　　（和朋友一起的个人兴趣项目）

  负责人：Bang Xu

- 多个模式识别课程项目　　　　　　　　　　　　　　　　　　　　　2015.09 – 2015.12
  　　　　　　　　　　Dept. of Electrical Engineering. University of Wyoming. USA

  负责人：Cammeron Wright

- 简明 Bootstrap Sampling（课程项目）　　　　　　　　　　　　　　2015.01 – 2015.04
  　　　　　　　　　　　　Dept. of Statistics. University of Wyoming. USA

  负责人：Blair Robertson

- Ito 随机方程模型解的模拟（课程项目）　　　　　　　　　　　　　　2014.09 – 2014.12
  　　　　　　　　　　　Dept. of Mathematics. University of Wyoming. USA

  负责人：Hakima Bessaih

- Parabolic PDE 解法包（课程项目）　　　　　　　　　　　　　　　2014.09 – 2014.12
  　　　　　　　　　　　Dept. of Mathematics. University of Wyoming. USA

  负责人：Craig. C. Douglas

- 关于校学生历史录取数据的分析和招募建议（课程项目）　　　　　　　2014.01 – 2014.05
  　　　　　　　　　　　Dept. of Mathematics. University of Wyoming. USA

  负责人：Craig. C. Douglas

- NURBS 时间序列模型与数据重建 （大研计划）　　　　　　　　　　2010.06 – 2010.09

负责人：邵晨曦

- **手机用户的行为分析 （课程项目）** 2010.02 – 2010.06

负责人：杨周旺

## 学术讲演

- **22nd International Conference on Medical Image Computing and computer assisted Intervention (MICCAI 2019).** 2019.10
  Shenzhen, China
- **Convnets, a different view of approximating diffeomorphisms in medical image registration.** 2018.12
  *Shape Analysis, Stochastic Geometric Mechanics and Applied Optimal Transport Workshop, Banff International Research Station, Banff, Alberta, Canada*
- **Improve Effectiveness of Spectral Matching in Portable Raman Spectrometers.** 2018.05
  *NRC-Ottawa Industrial Problem Solving Workshop, NRC, Ottawa, Canada*
- **Medical image registration with neural networks.** 2018.04
  *Statistical Learning Workshop, Univ. of Ottawa, Ottawa, Canada*
- **2B or not 2B? It is a mathematical question.** 2017.02
  *Chatham University, Pittsburgh, PA, USA*
- **A Bayesian method on landmark momentum data for abnormality detection.** 2016.06
  *RMMC-Functional Analytic and Statistical Methods in Error Prediction with Applications. Univ. of Wyoming, USA*
  2016.10
  *Southern Utah University, Cedar City, Utah, USA*
- **Shape analysis based on landmark representation.** 2015.05
  *Applied and Computational Mathematics Seminars, Univ. of Wyoming, Laramie, USA*
- **The N-particle system for EPDiff and its applications in shape analysis.** 2015.03
  *Graduate Students Seminars, Univ. of Wyoming, Laramie, USA*

## 参与会议

- 22nd International Conference on Medical Image Computing and computer assisted Intervention (MICCAI 2019). 2019.10
  *Shenzhen, China*
- Shape Analysis, Stochastic Geometric Mechanics and Applied Optimal Transport. 2018.12
  *Banff International Research Station, Alberta, Canada*
- 32nd Conference on Neural Information Processing Systems (NeurIPS) 2018.12
  *Montreal, Quebec, Canada*
- NRC-Ottawa Industrial Problem Solving Workshop. 2018.05
  *Fields Institute - Canada National Research Council - University of Ottawa, Canada*
- Geometric PDEs and Their Approximation. 2016.01

- Rocky Mountain Mathematics Consortium (RMMC)
  *- Functional Analytic and Statistical Methods in Error Prediction with Applications.*     2016.06
  *Univ. of Wyoming, Laramie, Wyoming, US.*
- Rocky Mountain Mathematics Consortium (RMMC)
  *- Stochastic Differential Equations.*     2014.06
  *Univ. of Wyoming, Laramie, Wyoming, US.*

## 荣誉奖项

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|---|---|
| Affiliation Award with Vector Institute for Artificial Intelligence.[i] | 2019. 03 |
| Travel award for winter school in Texas A&M University | 2015. 11 |
| Graduate assistantship, Univ. of Wyoming | 2012-2016 |
| 国家励志奖学金（一等） | 2009-2011 |
| 大学生研究计划一等奖 | 2010 |
| 唐仲英奖学金 | 2010 |
| 中国科学技术大学优秀学生奖学金 | 2008-2011 |

## 社会经历

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|---|---|
| 志愿者 The data Effect conference in Ottawa, CA | 2018.05 |
| 中国留学生和学者协会（CSSA）志愿者 | 2016.02 |
| 校羽毛球俱乐部 officer | 2015-2016 |

## 技能与爱好

**编程语言：**
- 熟练: Python, Matlab
- 有经验: C, C++, R, Mathematica, SQL, MongoDB, Shell, Julia

**外语：**

英语 （八年北美经历， 雅思 8.0）

**学术兴趣：**

人工智能，深度学习，机器学习，数据分析，数学建模，科学计算，数据可视化

**业余爱好：**

旅行，羽毛球，乒乓球，网球

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[i] 由于工作变动，未领取