Ning Mei

Basque Center on Cognition, Brain and Language – David Soto Group

n.mei@bcbl.eu or nm2241@nyu.edu

Website: https://github.com/adowaconan

Open Science Framework: https://osf.io/chav7/

EDUCATION

2018 (in progress)

- Basque Center on Cognition, Brain, and Language

  P.h.D in Cognitive Neuroscience

2016

- New York University, New York, NY

  M.A in Psychology (General)

2014

- Arizona State University, Tempe, AZ

  B.A. in Psychology (minor in Statistics)

2012

- Guangzhou University of Traditional Chinese Medicine, Guangzhou, China

  B.S. in Applied Psychology

PUBLICATIONS and CONFERENCE POSTERS

Posters

Teng, X., Mei, N., Tian, X., & Poeppel, D. (2016). Auditory temporal windows revealed by locally reversing Mandarin speech. *Society for Neurobiology of Language,* Poster (co-first-author), Cognitive Neuroscience Society, 2016

Kim, T., Mei, N., Poeppel, D., & Flinker, A. (2015). A new acoustic space for hemispheric asymmetries. *Society for Neurobiology of Language,* Poster (co-first-author), Society for Neuroscience, 2015

Publication

Ning Mei, Michael Grossberg, Kenneth Ng, Karen Navarro, and Timothy Ellmore. Identifying sleep spindle with multi-channel EEG and classification optimization. Biology and Medicine. (2017)

Timothy Ellmore, Chelsea Reichert, Kenneth Ng, and Ning Mei, Visual continuous recognition reveals widespread cortical contributions to scene memory. (under review)

Timothy Ellmore, Michael Grossberg, Karen Navarro, Kenneth Ng, and Ning MeiA high-density scalp EEG dataset acquired during brief naps after a visual working memory task. (2018)

Ning et al., (under review). Dichotic listening effect of Mandarin tones.

AWARDS

Arizona State University, Dean's list	2013, 2014
Data Science RoAD-Trip	2016

Research and Internships

Fall 2014 – Spring 2018

David Soto lab

- *Doctoral researcher*
  Running psychophysics experiments, fMRI experiments, data analysis
  Ongoing project: Deep Neural Network Models in decoding semantic categories of nouns.

Fall 2014 – Spring 2018

David Poeppel lab

- *MA research assistant*
  Running psychophysics experiments, MEG experiments, data analysis
  Ongoing project: Investigating hemispheric asymmetry in perceiving Mandarin Tones, in conditions of hums or lexical tones.
  github.com/adowaconan/Dichotic-Listening

Spring 2015 – Fall 2016

Catherine Good lab

- *MA research assistant*

Experimental subject testing, data collection, data analysis
Data analysis on how sense of belonging in math moderating self-estimation in different confidence levels

Spring 2016 – Spring 2018

Timothy Ellmore lab

- *MA research assistant*
  Develop python/Matlab Input/Output interacting scripts/protocol for EEG data processing
  Selecting features to detect target brain wave patterns (i.e. spindles, k-complex, sleeping stages) in the signal
  Automatic pipeline of non-supervised models to detect spindles (https://osf.io/fc3u5/; github.com/adowaconan/modification-pipelines)

Fall 2016 – Fall 2018
Data Science RoAD-Trip (Fund awarded, $4000)
- The RoAD-Trip Joint Data Science Plan (Mentor: Gaurav Pandey)

- Implementing machine learning algorithms to detect target brain wave patterns (i.e. spindles, k-complex)
- Implementing machine learning algorithm to classify sleeping stages within subjects (github.com/adowaconan/Spindle_by_Graphical_Features)

Spring 2017 – Spring 2018

Denis Pelli lab

- *Research assistant*
  Study of noise dynamic in visual grouping effect

Spring 2014

American Cancer Society Cancer Prevention Study – 3

- *Volunteer, Research assistant*
  Recruiting subjects, social media research

Fall 2012-Summer 2014

ASU Changemaker center, Tempe, AZ

- *Volunteer*
  Creating communities of support around new solutions/ideas

Fall 2009, Spring 2010

Canton Life Hot Line, Guangzhou, China

- *Intern*
  Consulting, recording consulting results

Fall 2010, Spring 2011

Research team, prisoner emotional health, Guangzhou, China

- *Intern*
  Collecting data about prisoners' mental health

Working experience

Fall 2012 to present

Varsity Tutor

- *Tutor*
  Multivariate Calculus, Linear Algebra, Trigonometry (high school and college levels), Statistics (i.e. research methods, analysis methods, simulation, signal detection theory), Mandarin, Programming data analysis

March 2013 to present

Translator, MCC Translation, Phoenix, AZ

SKILLS and CERTIFICATIONS

Computer Skills:

Excellent – Microsoft Office

Word, Excel, Presentation, Poster Design

Excellent – Matlab

Parametric tests, Nonparametric tests, Factorial analysis, Principle Component Analysis, Psychophysics Toolbox, Signal Processing Toolbox, Data Visualization, Scripts of Functions.

Excellent – Python

Parametric tests, Nonparametric tests, Factorial analysis, Principle Component Analysis, Bayesian Modeling, Cross Validation Model Evaluation, Data Visualization, Lambda Functions, Extensions of Python such as MNE-python (specialize in EEG, MEG data analysis), Sci-kit learn, Pandas, Theano, Tensorflow (Keras), Pytorch, and PyMC3, Import and export excel, matlab, SPSS, and SAS files to Pythonic data frames. Extract, transform, and load datasets, Psychophysics experiment via PsycoPy, Deep Neural Network Modeling

Excellent – SPSS

Parametric tests, Nonparametric tests, Factorial Analysis, Principle Component Analysis, Independent Component Analysis

Excellent – R

Parametric tests, Nonparametric tests, Factorial Analysis, Principle Component Analysis, probabilistic computation
Shiny – interactive graphs
ggplot, data visualization

Good – Letax Editor

Equations and special effects in presentation slides, posters

Beginner – Julia

Julia ikernel interacting with Jupyter projects

Skills:

- Courses taken: Calculus/Analytic Geometry I – III, Probability, Mathematical statistics, Simulation and Data Analysis, Mathematical Tools for Psychology and Neuroscience

Statistics Skills:

- Parametric statistics, Non-parametric statistics, Factorial Analysis, Principle Component Analysis, Independent Component Analysis, Least square regression, Multivariate regression, Step-wise hierarchical regression, Logistic regression, Bayesian Inference, Machine Learning Cassification(python sci-kit learn, Theano, tensorflow, pytorch).

Language:

- Mandarin
- Cantonese, mother tongue
- English

Current Project

- Investigating hemispherical difference in processing acoustic cues and lexical cues of Mandarin Tones using dichotic listening paradigm (https://github.com/adowaconan/Dichotic-Listening/blob/master/show_data.pdf)
- Implementing machine learning techniques in detecting spindles from EEG nap data (part 1, https://osf.io/fc3u5/; github.com/adowaconan/modification-pipelines; part 2, github.com/adowaconan/Spindle_by_Graphical_Features; part 3, github.com/adowaconan/SpindleClassification_DeepConvolutionalNeuralNets)
- Decoding mental states of living vs. non-living words through fMRI scans (https://github.com/adowaconan/animal_vs_tool_decoding_deep_learning; https://github.com/adowaconan/Autoencoder_experiment_fMRI; https://github.com/adowaconan/Deep_learning_fMRI; https://github.com/adowaconan/animal_vs_tool_decoding)