Hyejin Jenny Yeon

Mathematician | Application · Modeling · Implementation

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SUMMARY

Ph.D. Candidate in Math with expertise in mathematical models ranging from traditional models in life sciences to data-driven models in artificial intelligence. Have a solid background in Java and front-end development. Have completed projects involving scientific computing, implementation of machine learning algorithms, computer graphics, data visualization, video production, and more. Teach technical content to both technical and non-technical audiences. Former owner of a highly rated online handmade makeup palette store.

EDUCATION

University of Wisconsin-Madison

Ph.D. Candidate in Mathematics | Master's Degree in Mathematics (2017)
- Anticipated Completion: December 2021, Advisor: Dr. Gheorghe Craciun
- Minor: Computational Mathematics
- A member of Reaction Network Theory Group & Computer Graphics Group

Washington University in St. Louis

Bachelor's Degree in Mathematics (2012) | *Summa Cum Laude*
- Awards: Ross Middlemiss Prize (2012), Research Fellowship for the year 2012-13
- Advisor: Dr. Quo-Shin Chi

SKILLS

Research Interests: Predictive Mathematical Modeling, Explainable & Intelligible AI, Visualization, Mathematics of ML
Programming Languages: Java (main), JavaScript/Html/CSS, Python
- Library Experience: JavaFx, Three.js, Canvas API, SKLearn, Pytorch
Scientific Computing: MATLAB, Mathematica, MySQL
Visualization Tools: Tableau, Plotly.js, D3.js, Adobe Photoshop & Premiere Pro
Completed Courses: Programming I-III, Algorithms, Artificial Intelligence, Machine Learning, Computer Graphics, Data Visualization, Computational Mathematics, Computer Vision, Human Computer Interaction: User Modeling
Languages: English, Korean

EXPERIENCE

Applied Scientist Intern at Machine Learning University Team
Amazon Web Services | May 2021 – August 2021
- Design, develop and deploy interactive web-based articles to aid understanding of machine learning models using JavaScript and D3.js.
- Teach a machine learning course to new and existing employees.
- Evaluation Outcome: Vote to incline.

Researcher, Research Assistant
UW-Madison | Washington University in St. Louis | Summer 2011, 2017- Current

EXPERIENCE CONT.

- (Current Project) Design and develop a metric-based visual analytics tool for end-users to explore random forest models for model explainability.
- Conduct research on implementable mathematical models for life sciences by studying relationships between a network (directed graph) and its associated time evolution model in a dynamical systems framework.
- Analyzed chemical compounds using Spartan software as a research assistant for Dr. Gaspar's Computational Chemistry Group.

Instructor, Teaching Assistant, Tutor
High Student Evaluations | Campus-Wide Award (2021) | August 2007 – Current

- Effectively Teach a Wide Range of Classes with Many Evaluations Stating:
  - Responsible, responsive, connected, and encouraging instructor.
  - Delivers materials in a clear and simple way, organized and coordinated.
- Handle Various Class Dynamics with Great Flexibility Such as:
  - Carefully designing a course with a large proportion of underrepresented students.
  - Guiding students in difficult situations to have successful outcomes by reaching out to them and working with other university parties.
- Provide Technical Support for Online Teaching and Tutoring Program.
- Won L&S Continuity of Instruction Award for delivering exceptional student experience in a remote instructional setting.
- Lecture Videos: Pre-Algebra (jennyyeon.page.link/muUh), College Algebra (jennyyeon.page.link/qL6j)

Owner, Designer, Maker
MiniMintPalette, JennysEarring | Etsy Stores | 2007, 2013-2017

- Made all one-of-a-kind products and worked on many custom orders.
- Received Average 5/5 Store Rating for Quality and Customer Service.
- Products sold out within 20 minutes of uploading until the closure of the store.

SELECTED PROJECTS

HCI, Explainable AI: Modeling User Behavior Pattern with a Large News Reading Dataset.
Machine Learning: Can opinion on climate change be used to predict election results?
Visualization, GUI: Creating a tool for a seller to navigate Amazon's 20,000 categories.

PUBLICATIONS

Names Shown in Alphabetical Order
[1] Gheorghe Craciun, Hyejin Jenny Yeon, *Global Stability of Non-Autocatalytic Mass Action Systems* (In preparation)
[2] Gheorghe Craciun, Abhishek Deshpande, Hyejin Jenny Yeon, *Quasi-Toric Differential Inclusions*, Discrete and Continuous Dynamical Systems - B (2020)

OUTREACH & OTHER EXPERIENCES

Volunteer Teaching Work; Co-organizer of Women and Non-binary People in Mathematics at Wisconsin; Member of Graduate Representative Association of Mathematics Students; Counselor for Program in Mathematics for Young Scientists at Boston University; Customer Service Representative; Beauty Blogger; Freelance Makeup Artist