Ji Won **Chung**

Researcher · Software Engineer · UI Developer
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Education

Brown University - Ph.D. Student in Computer Science — *Providence, RI*
Cumulative GPA: N/A — *Sep 2021 - May 2027*
- Advisor Jeff Huang - Human Computer Interaction Lab | Visual Computing Lab

Smith College - B.A. Computer Science, Mathematics Minor — *Northampton, MA*
Cumulative GPA: 3.99/4.00 — *Sep 2015 - May 2018*
- Highest Honors in Computer Science | Magna Cum Laude | Phi Beta Kappa | Sigma Xi | Dean's List 2015-18

Research Experience

Graph-based Matching for Word Spotting in Handwritten Documents — *Northampton, MA*
Senior Thesis | Awarded Highest Honors — *Sep 2017 - May 2018*
- Proposed a new method to measure similarity of two part-structured Inkball models and increased accuracy in query retrieval of handwritten words on the standard George Washington 20 dataset using MATLAB
- Formalized similarity of two models via a bidirectional match between two graphs and an introduction of two new measures to capture many-to-one matches of nodes and the structural differences between graphs

Pacific Northwest National Laboratory — *Seattle, WA*
National Security Internship Program — *Jun 2017 - Aug 2017*
- Developed an interactive, web-based visualization tool to discover and detect anomalies and patterns in graphs containing info on interactions and behaviors of actors, entities, and/or features in React and D3.js
- Linked analytical tooltips and histogram visualizations with D3 graph models and enabled editing functionality to interact with graphs

Human Computation & Visualization Laboratory — *Northampton, MA*
Research Assistant — *May 2016 – May 2017*
- Designed and developed *DSMVis: Interactive Visual Exploration of the DSM-5 for Mental Health Providers*, an interactive diagnoses filtering system via bubble charts to reduce diagnostic bias of mental health clinicians and organizational bias of the DSM-5 using D3.js, HTML, and CSS
- Conducted machine learning analysis and web-scraped, curated, and cleansed data through use of Python packages Grahpviz, scikit-learn, matplotlib, Seaborn, NumPy, SciPy, pandas, and plotly and R
- Created interactive network graph and corresponding adjacency matrix using D3.js, HTML, and CSS to investigate new data visualization techniques in networks for cyber security analysts

Splines Project — *Northampton, MA*
AEMES Early Researcher — *Oct 2015 – Apr 2016*
- Collaborated with Professor Julianna Tymoczko to find growth patterns in Young tableaux using arch signs

Work Experience

Morgan Stanley — *New York, NY*
Technology Associate & Technology Analyst Program - Listed Sales & Trading — *Aug 2018 - Present*
- Developing new routing framework capabilities for real-time electronic sales and trading systems for high-profile, critical sales and trading platforms used by traders, account managers, quants and compliance and risk officers in C++, Python, and XML
- Comparative performance and stress testing to identify bottlenecks and load capacity to account for high-volume trading
- Created a GUI for regression testing to facilitate client migration and binary upgrades using Jasmine testing framework, Flask, Mongo DB, and Angular
- Built a release manager UI to automate software deployment workflow using Scala, Java, and Splunk

Smith College Department of Computer Science — *Northampton, MA*
Computer Science Teaching Assistant — *Sep 2017 - Dec 2017*
- Assisted Data Structures and Microprocessors and Assembly Language classes and helped students with conceptual and programming questions

Papers & Conferences

- N. Howe and J. W. Chung, "Symmetric Inkball Alignment with Loopy Models," *2019 International Conference on Document Analysis and Recognition (ICDAR)*, Sydney, Australia, 2019, pp. 349-354, doi: 10.1109/ICDAR.2019.00063. Available Preprint.
- J. W. Chung, I. Raut, J. Y. Yun, K. Pien, S. Sridhar, M. R. Crouser, and R. J. Crouser, "DSMVis: Interactive visual exploration of the DSM5 for mental health providers," *2017 IEEE Conference on Visual Analytics Science and Technology (VAST)*, Phoenix, AZ, USA, 2017. **Honorable Mention Best Poster**.
- J. W. Chung, "Dynamic Network Analysis via Motifs (DYNAMO) Software Development," *2017 Pacific Northwest National Laboratory National Security Internship Program Research Symposium*, Richland, WA, USA, 2017. Presentation.
- J. W. Chung, Z. Rizvi, S. Sridhar, and J. Y. Yun, "A Business Opportunity: Targeting Expedia's Niche Market in Travel Packages Via Analytical and Predictive Modeling," *2017 Electronic Undergraduate Statistics Research Conference (eUSR)*, 2017. **Third Placed Paper in USCLAP Competition in Intermediate Statistics** and Presentation.

- J. W. Chung, "Computing Mental Health," *2016 Women in Science*, Clark Science Center's Summer Research Fellows Program, Northampton, MA, 2016, pp. 156. Availble Paper.

Volunteer Work

Billion Oyster Project (BOP) — *New York, NY*

Volunteer UI Developer | Global Excellence Award - Giving Back — *Jul 2020 - Feb 2020*

- Team Awarded Global Excellence Award for Giving Back Category by Morgan Stanley to help restore New York City's water quality by reintroducing one billion oysters into the ecosystem
- Volunteered 100+ hours to gather user requirements to design and create an MVP1 platform to submit data and generate reports on oyster research sites using Angular for BOP Scientists, students, and affiliates

Smith Student-Alum Mentoring Program — *New York, NY*

Founder & Coordinator — *Jul 2020 - Present*

- Provide undergraduates at Smith College with networking opportunities, career panels, and speed mentoring sessions with alumnae in tech
- Organize resources for job searching, preparing for technical interviews, attending conferences, and building resumes

Rewriting the Code Mentor — *New York, NY*

Mentor — *Aug 2020 - Present*

- Provide 1:1 career advice and guidance for female undergraduates interested in pursuing computer science

Break Through Tech's Summer Guild — *New York, NY*

Mentor — *Jul 2020 - Jul 2020*

- Guide team of CUNY first and second year female students to ideate, present, and develop a website for recommending music selections by mood

Girls Who Code Mentor — *New York, NY*

Girls Who Code Summer Program — *Jul 2019 - Aug 2019*

- Mentor female high school students interested in pursuing computer science and provide them advice for their careers and college education

TAP Peer Advisor & Summer Analyst Mentor — *New York, NY*

Technology Analyst Program — *Feb 2019 - Nov 2020*

- Provide career advice and networking opportunities for new technology employees joining through the Technology Analyst Program and the Summer Analyst Program

Girls Who Code — *Northampton, MA*

Teaching Assistant — *Jan 2017 - May 2017*

- Taught middle school students to create and design websites promoting social good using Python, CSS, and HTML

AEMES Program — *Northampton, MA*

Peer Mentor — *Jan 2017 - May 2017*

- Helped STEM students in the Smith College AEMES Program to plan their academic career and successfully find research opportunities

Honors & Awards

2020	**Global Excellence Award - Giving Back**, Awarded by Morgan Stanley for Volunteering on Billion Oyster Project	*New York, NY*
2017	**IEEE Visual Analytics Science and Technology Conference**, Honorable Mention for Best Poster	*Pheonix, AZ*
2017	**Grace Hopper Conference**, Student Scholar	*Orlando, FL*
2017	**Five College DataFest**, First Place - Best in Show and Best in Group	*Amherst, MA*
2017	**International Interdisciplinary Contest in Modeling (ICM)**, Meritorious Winner (Top 10%)	*Bedford, MA*
2017	**National Draper Competition for Collegiate Women Entrepreneurs**, Semi-Finalist	*Northampton, MA*
2017	**HackSmith III Hackathon**, Second Place	*Northampton, MA*
2017	**Intermediate Level Undergraduate Class Project Competition (USCLAP)**, Third Place	*Northampton, MA*
2017	**Grinspoon Entrepreneurship Initiative**, Concept Award	*Holyoke, MA*
2016-17	**OTEFE Foundation Scholarship**, Academic Scholarship for students of Korean Descent	*Northampton, MA*
2016	**Arthur Ellis Hamm Prize**, 1st Year with Highest GPA at Smith College	*Northampton, MA*
2016	**Summer Undergraduate Research Fellowship**, Computing for Mental Health Project	*Northampton, MA*
2016	**Five College Chinese Speech Contest**, Third Place for Beginning Level Division	*South Hadley, MA*

Technical Skills

- Java, Python, Angular, Flask, JavaScript, MATLAB, C++, Scala, C#, D3.js, React.js, XML, HTML, CSS, x86 Assembly, Git, Linux, Bash, C, Data Wrangling, Web-Scraping, WebGL, Blender, SQL, Sybase

Languages

- Korean (Fluent), English (Fluent), Spanish (Intermediate), Mandarin Chinese (Beginner)