Brooke K. Ryan

Graduate Student in Computer Science | Artificial Intelligence Researcher
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EDUCATION

UC IRVINE
M.S. Computer Science
Sept. 2020 - Jun. 2022
GPA: 3.8 / 4.0

UC SAN DIEGO
B.S. Mathematics-Computer Science
2013 - 2017 | La Jolla, CA
GPA: 3.4 / 4.0

SKILLS

MACHINE LEARNING
Deep Learning Libraries:
Keras • Tensorflow • PyTorch
• OpenCV • WandB
Natural Language Processing:
AllenNLP • HuggingFace • SpaCy
• NLTK • Stanford Core NLP
Data Science:
NumPy • Scikit-Learn • Pandas
Distributed Computing:
CUDA • Sun Gird Engine • Linux
• Unix • Bash • AWS

SOFTWARE ENGINEERING
Programming Languages:
Python • Java • C++ • C • Kotlin
• Scala • JavaScript • Ruby • HTML
• CSS • SQL • LaTeX • Bash • Shell
Miscellaneous:
Git • Command Line • Scripting
• Jekyll • Back-end engineering
• Web Development • Raspberry Pi
• Arduino • Functional Programming

HONORS & AWARDS

FELLOWSHIPS
UC Irvine Teaching Assistant
Fellowship | $56,000

AWARDS
CBS Interactive Company-Wide
Hackathon, First Place | $1,000
Provost Honors, UC San Diego

TEACHING

Information Retrieval • Reverse
Engineering and Modeling • Programming Styles • Humanitarian Engineering
Girls Who Code Summer Immersion

RESEARCH

SOFTWARE ENGINEERING | André van der Hoek
Feb. 2021 – Present | Irvine, CA
- Identified a gap in the software engineering curriculum; researched and wrote up techniques of leveraging existing source code to develop software for other universities wishing to implement a similar course.

DEEP LEARNING & VISION | Pierre Baldi & Andrew Browne
Mar. 2021 – Dec. 2021 | Irvine, CA
- Lead student in interdisciplinary research project with UCI Ophthalmology School investigating the parallels between machine and human vision using deep learning and human subject experiments.
- Investigated several deep generative models STAR-GAN, EDSR, deep autoregressive generative models. Applied image augmentation, experimented with modification of the architecture, optimized EDSR model using SHERPA hyperparameter optimization.

INDUSTRY

BLIZZARD ENTERTAINMENT | Software Engineer
Jan. 2020 - Feb. 2021 | Irvine, CA
- Backend Java engineer in the Battle.net and Online Products organization, delivering eCommerce APIs and capabilities on the Purchase team.
- Implemented critical Purchase-system APIs to implement functionality to support several new payment methods and platforms in Korea region; co-presented an organization-wide talk on the project and methodologies used.

INTUIT | Software Engineer
Aug. 2017 – Nov. 2018 | San Diego, CA
- Backend Java engineer; delivered Identity capabilities across Intuit products.
- Created Spring "Annotator" tool, automatically converts any Spring XML project to equivalent annotation configuration. Gave organization-wide tech talk; open-sourcing for over 10,000 Intuit employees.
- Led Identity team to improve speed and stability of CICD test and build cycle. Researched strategies to address infrastructure issues, implemented automated build jobs for visibility on flaky tests. Decreased build by 1.5 hrs.

INTUIT | Software Engineering Intern
June 2016 - Sept. 2016 | San Diego, CA
- Intern on iOS TurboTax application team, focus in Java and React Native.

CBS INTERACTIVE | Software Engineering Intern
June 2015 - Aug. 2015 | San Francisco, CA
- Front-end software engineering intern on the Advanced Technology Team.

PUBLICATIONS

[1] **Brooke Ryan**, A. M. Soria, K. Dreef, and A. van der Hoek, "Reading to write code: An experience report of a reverse engineering and modeling course," in *44nd International Conference on Software Engineering: Software Engineering Education and Training (ICSE-SEET '22)*, IEEE Press, 2022.