

Byungjin Park

SOFTWARE ARCHITECT · SECURITY EXPERT

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“Be the change that you want to see in the world.”

Summary

PhD student working in quantum information theory, specializing in characterization of quantum systems.

Work Experience

National Institute of Standards and Technology

Boulder, CO

RESEARCH ASSISTANT, KNILL GROUP

January, 2019 - Present

- Developed theory for adaptive measurement strategies for application to repeated fluorescence measurements, for example in trapped-ion systems.
- Worked with Ion storage group at NIST to characterize measurement fidelity of an ion system under repetitive fluorescence measurement.
- Worked with Kaufman Lab at JILA to characterize indistinguishability of a neutral atom array.
- Worked with Aumentado group at NIST to characterize entanglement in coupled mechanical oscillators.

University of Colorado

Boulder, CO

RESEARCH ASSISTANT, DESSAU GROUP

May, 2018 - January, 2019

- Performed characterization of various materials, using methods such as XRD, ARPES, SNOM

University of Colorado

Boulder, CO

TEACHING ASSISTANT

August, 2017 - May, 2018

- Taught recitation sections of introductory electrodynamics and introductory mechanics.

National Institute of Standards and Technology

Boulder, CO

RESEARCH ASSISTANT, KNAPPE GROUP

August, 2015 - August, 2016

- Performed testing of Rubidium atomic magnetometers and gradiometers.
- Designed PCBs for lasers to heat an array of atomic magnetometers.

Presentation

DevFest Seoul by Google Developer Group Korea

Seoul, S.Korea

PRESENTER FOR <HOSTING WEB APPLICATION FOR FREE UTILIZING GITHUB, NETLIFY AND CLOUDFLARE>

Nov. 2017

- Introduced the history of web technology and the JAM stack which is for the modern web application development.
- Introduced how to freely host the web application with high performance utilizing global CDN services.

6th CodeEngn (Reverse Engineering Conference)

Seoul, S.Korea

PRESENTER FOR <DEFCON 20TH : THE WAY TO GO TO LAS VEGAS>

Jul. 2012

- Introduced CTF(Capture the Flag) hacking competition and advanced techniques and strategy for CTF

Publications

Improving quantum state detection with adaptive sequential observations

Quantum Science and Technology 7
(3), 034004

S GELLER, DC COLE, S GLANCY, E KNILL

May 13, 2022

High-fidelity indirect readout of trapped-ion hyperfine qubits

Physical Review Letters 128 (16),
160503

SD ERICKSON, JJ WU, PY HOU, DC COLE, S GELLER, A KWIATKOWSKI, S GLANCY, E KNILL, DH SLICHTER, AC WILSON, D
LEIBFRIED

April 21, 2022

Direct observation of deterministic macroscopic entanglement

S KOTLER, GA PETERSON, E SHOJAEI, F LECOCQ, K CİÇAK, A KWIATKOWSKI, **S GELLER**, S GLANCY, E KNILL, RW SIMMONDS, J AUMENTADO, JD TEUFEL

Science 372 (6542), 622-625

May 7, 2021

A microfabricated optically-pumped magnetic gradiometer

D SHENG, AR PERRY, SP KRZYZEWSKI, **S GELLER**, J KITCHING, S KNAPPE

Applied Physics Letters 110 (3), 031106

January 16, 2017

Education

Reed College

B. A. IN PHYSICS

- Phi Beta Kappa

Portland, OR

Aug. 2011 - May 2015

University of Colorado

M. S. IN PHYSICS

Boulder, CO

Aug. 2017 - May 2021

University of Colorado

PH. D. IN PHYSICS

Boulder, CO

Expected May 2023