Geoffrey George Gaswint

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SOFTWARE EXPERIENCE

Google (Support Cases Context Team) — *Irvine, California*

Software Engineer, Full Stack — *May 2021 – Present*

- Optimized Case Log, reducing application load time by 1 second, while leading the vertical within Cases.
- Managed the full product cycle from ideation to launch for projects such as A) Smart Context, which reduced Case resolution time B) Email Personalization, which increased customer sentiment.
- Established expertise in adopting Boq platforms within Cases by leading the initial implementation and conducting learning sessions to drive adoption.
- Designed and implemented freeze metrics, alerting dashboards, and feature enhancements to improve Support Cases health. Additionally, advised Connect Sales on adopting a similar approach for their application.
- Mentored junior engineers, led team meetings as the SCRUM master, conducted interviews.

ARIANNA Astrophysical Neutrino Detector — *Irvine, California*

Graduate Student Researcher — *Apr 2017 – Mar 2021*

- Established first ever angular resolution measurement of radio induced ultra-high energy neutrino interactions by implementing real data processing modules in Python; Result demonstrated viability of neutrino reconstruction via radio wave measurements.
- Directed a team of scientists installing C++ firmware on neutrino detector Mbed microcontrollers in Antarctica; extended hardware (including installing a new detector at the South Pole), thus improving the effective detector volume from 18.2 km^3 to 23.4 km^3.
- Proved classically forbidden modes of photon propagation by implementing a custom C++ ray tracing simulation, which extended the theoretical neutrino detection range in Antarctica by $\sim$5%.

Theory at University of California, Irvine — *Irvine, California*

Graduate Student Researcher — *Apr 2017 – Aug 2019*

- Disproved a subset of the varying Yukawa theories (a model exploring the origins of mass) by implementing a custom Python framework to analyze the changes in coupling constants; this narrows the set of Grand Unified Theories in physics and is a step towards our understanding of the origins of mass.

Raytheon — *Tucson, Arizona*

Systems Engineer — *Jan 2016 – Sep 2016*

- Implemented missile simulation rendering software and converted MatLab systems into C++ (details classified).

Cryogenic Dark Matter Search — *Berkeley, California*

Undergraduate Researcher — *Nov 2013 – Jul 2015*

- Implemented a C++ Monte Carlo simulation to model the effects of phonon-electron scattering on germanium and silicon crystal substrates, thus narrowing the theories for "weakly interacting massive particles" (WIMPs) as candidates for dark matter.

Large Underground Xenon dark matter experiment — *Berkeley, California*

Undergraduate Researcher — *Nov 2013 – Jul 2015*

- Implemented plotting for particle interactions with CCD images using a custom Python script, which helped determine the best alpha particle shielding techniques in order to improve the resolution of dark matter detectors.

PERSONAL PROJECTS

iOS and Android apps

- **DodgerMan3000** (GitHub, iOS, Android): Dodge enemies with auto-fire mechanics through numerous worlds each with 10 phases. Includes upgrades and much more. (built using React Native).
- **MyBestFriend** (GitHubiOS, Android): Chat with a human like bot that can provide comfort through jokes, memes, news, and much more. Fully customizable chat screen. (built using React Native).
- **TapThis!/TapThat!** (GitHubiOS, Android): Compete with friends to get the best score on pressing buttons as quickly as you can when they appear. (built using React Native).

SKILLS

Proficient: Dart • Java • Python • React Native • ReactJS

Familiar: C++ • Git • SQL • Linux Systems • MatLab

EDUCATION

University of California, Irvine — Irvine, California

Ph.D and Masters in Physics — *Sep 2016 – Mar 2021*

University of California, Berkeley — Berkeley, California

B.A. in Physics, B.A. in Mathematics — *Aug 2012 – Dec 2014*