Research Assistant Research Assistant Research Assistant - SUNY Stony Brook Setauket, NY Deep knowledge in nano device physics and electron transport experiments. Working knowledge of current nano-fabrication methods and characterization. Strong programming and mathematics background and exposure to many areas of electrical engineering and related instruments. Work Experience Research Assistant SUNY Stony Brook - Stony Brook, NY January 2015 to Present -Thesis research focused on device applications of quantum Hall antidots in graphene, as well as the Josephson effect in Dirac/Weyl semi-metals. Was responsible for experiment design/proposal as well as fabrication, measurement and analysis. Focused knowledge in single electron/Cooper pair devices. Collaborations have included graphene based photonics and pump-probe dynamics, as well as topological materials engineering. -4+ years clean room experience. Strong nanofabrication skills including extensive use of JEOL 100kV SEM, RIE, AFM, chemical etching, sputter deposition/e-beam evaporation and UHV chamber design/assembly. -Extensive experience designing circuits for nano device measurements as well as extensive use of standard instruments for DC and RF measurements/circuit characterization. Knowledge/use of common RF and silicon devices. Working knowledge of superconducting electronics and JJ based devices. Extensive use of cryogenics and ^{4}He/^{3}He refrigeration. Junior Software Developer DeNovo Software - Los Angeles, CA January 2013 to August 2013 Researched and applied new methods to analyze flow cytometry data. This included generalized linear models, non-negative matrix factorization, and convex optimization methods (e.g. bregman iteration) applied to nonlinear least squares with priors. Integrated methods into analysis software. Education Ph.D. in Physics SUNY Stony Brook - Stony Brook, NY May 2019 B.S. in Physics and Mathematics UCLA - Los Angeles, CA June 2012 Skills Cadence (1 year), C++ (5 years), Linux (3 years), C (7 years), Data Analysis (7 years), Assembly (Less than 1 year), Labview (5 years), Haskell (Less than 1 year) Publications Discovery of High Dimensional Band Topology in Twisted Bilayer Graphene https://arxiv.org/abs/1903.07950 2019-03 Dirac Fermion Quantum Hall Antidot in Graphene https://arxiv.org/abs/1904.02273 2019-04 Contact transparency in mechanically assembled 2D material devices https://iopscience.iop.org/article/10.1088/2515-7639/ab1863 2019-06 Magnetic field suppression of

Andreev conductance at superconductor graphene interfaces https://iopscience.iop.org/article/10.1088/2053-1583/aa8825 2017-09 Photo-induced terahertz near-field dynamics of graphene/InAs heterostructures https://www.osapublishing.org/oe/abstract.cfm?uri=oe-27-10-13611 2019-05 Record-Low and Anisotropic Thermal Conductivity of a Quasi-One-Dimensional Bulk ZrTe5 Single Crystal https://pubs.acs.org/doi/full/10.1021/acsami.8b12504 2018-11 Terahertz Nanoimaging of Graphene https://pubs.acs.org/doi/full/10.1021/acsphotonics.8b00190 2018-06 Additional Information Computer Skills -Strong programming skills in C++, especially in relation to competitive/recreational programming. Systems programming experience in C, as well as exposure to the Linux kernel. One year experience working on a large project with many developers in the Delphi programming language, with exposure to OOP, design patterns and the Windows API. Use of various Python packages for simulations as well as for recreational programming. -Extensive experience programming instruments for data acquisition or automation using Labview, C, Python or whatever language the device supports (e.g. JEOL SEM). -Interest/knowledge in many areas of computational physics and applied mathematics, especially optimization and signal processing. Experience using a variety of analysis packages for multiphysics simulations and writing my own when necessary or convenient. Intermediate Proficiency Languages: GNU C, C++ (up to/including C++17), Python, Delphi, Mathematica Beginner Proficiency Languages: x86 Assembly, Haskell Operating Systems: GNU/Linux(Debian), Windows Applications: bash, GNU Toolchain, TortoiseSVN, Valgrind, Vim, LabView, COMSOL, Cadence Virtuoso (beginner), Sonnet Hobbies: Recreational programming/mathematics. Linux kernel, LKM.

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