Jonathan C S Lynn

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EDUCATION

Christ's College, University of Cambridge   Cambridge, United Kingdom
Master of Philosophy in Development Studies   October 2017 – June 2018
Advised by Dr. Graham Meyer Willis

University of North Carolina at Chapel Hill   Chapel Hill, NC
Bachelor of Science (Highest Distinction)   August 2013 – May 2017
First Major: **Computer Science (Honors)**   GPA: 3.89
Second Major: **Global Studies** (*Theme*: Economics, Trade, and Development; *Area*: Middle East)
Honors Thesis: "Evaluation of the Performance and Cost of Cloud-Based Robot Motion Planning"
Advised by Prof. Ron Alterovitz (Computer Science)
Dean's List (8 Semesters)

RESEARCH EXPERIENCE

Undergraduate Research Assistant   **November 2015 – June 2017**
UNC Computational Robotics Group   *Chapel Hill, NC*
- Developed parsers in **Java** that converted data from experiments into graphs of mean and standard deviation for comparison analysis
- Transferred existing path planning algorithms in simulation to run and compile on the Nao robot (**Java, C++**)
- Wrote test cases to record maximum joint speeds of the Nao robot for experimental calculations (**Java, CLI**)
- Contributed to discussions on economic models with regards to evaluating the case for cloud-based computation in robot motion planning
- Evaluated planning algorithms on cloud-based services through the implementation of test scenarios on AWS EC2
- Implemented an obstacle tracker (**C++**) and integrated the computed obstacle model into two new scenarios for the Fetch Robot (**JavaFX**), both virtual and physical, for work published in "The Economic Case for Cloud-based Computation for Robot Motion Planning"
- Acknowledged for work in J. Ichnowski, J.Prins, R. Alterovitz, "The Economic Case for Cloud-based Computation for Robot Motion Planning", *Proc. International Symposium on Robotics Research (ISRR)*, December 2016.
- Worked under the supervision of Prof. Ron Alterovitz and Dr. Jeffrey Ichnowski (PhD candidate at the time)

Undergraduate Researcher   **June 2014 – September 2014**
University of North Carolina at Chapel Hill, Department of Political Science   *Chapel Hill, NC*
- Conducted an independent research project to study the comparative effects of political education on Chinese students in both urban and rural settings over the past decade
- Performed literature review on civic education for children of migrant workers under Dr. Bill Tsang of Youth Global Network and submitted written report summarizing the findings
- Surveyed 120 graduate students in person resulting in 5 interviews to better understand political education in different representative settings
- Worked under the supervision of Prof. Thomas Oatley and in collaboration with Dr. Xu Ruifang of East China Normal University

PRESENTATIONS & POSTERS

- **J. Lynn**, "Evaluation of the Performance and Cost of Cloud-Based Robot Motion Planning", Presented at the 2017 Computer Science Undergraduate Research Symposium, University of North Carolina at Chapel Hill, Department of Computer Science, April 2017.

THESIS

- **J. Lynn**, "Evaluation of the Performance and Cost of Cloud-Based Robot Motion Planning", Undergraduate Honors Thesis, University of North Carolina at Chapel Hill, Department of Computer Science, 2017. [Online]. Available: https://doi.org/10.17615/2mqt-2565.

TEACHING

Undergraduate Learning Assistant   **January 2016 – May 2016**
UNC Department of Computer Science   *Chapel Hill, NC*
- Assisted review sessions and held office hours for an advanced bio-algorithms course taught by Prof. Leonard McMillan
- Graded and provided solutions to bi-weekly programming assignments for a class of over 30 undergraduate and graduate students

AWARDS & HONORS

- **Honors Carolina Laureate**, May 2017
- **Buckley Public Service Scholar**, May 2017
- **Phi Beta Kappa**, February 2017
- **Vimy Global Team Award 2016**; Fund for interdisciplinary teams to pursue research or service projects abroad
- **Bryant Memorial Award**, May 2014; Independent Research Grant
- **Chancellor's Carolina Scholar**, 2013- 2017; Highest University Merit Scholarship

WORK EXPERIENCE

Freelance Full-Stack Engineer   **November 2021 – Present**
Project C, Youth Global Network   *Sha Tin, Hong Kong*
- Adding tracking for user events, event domains, and objects in the youCodia web application via Google Analytics v4 and Google Tag Manager
- Developing an API for pre-processing raw user data and to integrate the classroom management system with the learning-style classifier engine
- Visualizing student classwork activity and learning style classification from the ML engine in the youCodia classroom management platform

CTO & Full-Stack Engineer   **April 2021 – October 2021**
Co-Founder, Senior Software Engineer   **April 2020 – March 2021**
Tsunadon Coding Development Company, Ltd   *Hong Kong, Hong Kong*
- Led scope, planning, scheduling, design, and Agile development of youCodia 2.0, an integrated multi-platform coding and classroom management software with 4 teams and over 20 stakeholders, securing over $500,000 in funding
- Designed and implemented a multi-endpoint federated GraphQL API that wrapped the legacy gwt application to integrate the existing production software and database with youCodia 2.0's new frontend, server, and databases
- Automated the GKE deployment workflow (**Helm**) resulting in a reduction of deployment time by over 90%
- Reduced company-wide API development time by consolidating and standardizing boilerplate code as a CLI
- Created an incident report system, met with customers to define/verify needed UI/UX and software features
- Taught and coached over 30 high school, college, and early-career students in full-stack developer bootcamps with intensive customized coursework and software projects from local and international businesses tailored to their ability to practice their learned skills
- Worked with mentoring team to design a mobile app to use with over 1000 school mentors and students and developed proof-of-concept
- Designed and created a web-based DBMS and an integrated MIT App Inventor extension to help partner schools teach relational databases through the creation of App Inventor mobile apps

Software Engineer   **September 2018 – March 2020**
Project C, Youth Global Network   *Shatin, Hong Kong*
- Contributed to youCodia, a proprietary app-builder based on MIT's App Inventor used by over 10 schools, by adding features (**React/Redux,** legacy gwt), solving bugs (customer reported), and testing (**Jest, Enzyme)**
- Worked with teachers, curriculum, and deployment teams to redesign youCodia's UI/UX
- Modularized frontend and backend architecture according to the microservices approach, enhancing software stability and management
- Developed a testing library to assess performance in tutorials on the youCodia platform (**JavaScript** & Google Blockly)
- Enhanced production software's stability by integrating end-to-end testing (**Cypress**) and increasing testing coverage
- Trained high school graduates to develop industry-level native mobile apps using **Flutter** and **Dart**
- Supervised 8 graduate and undergraduate students from MIT, Stanford, and UChicago on tasks in frontend web, data collection and analytics, and an ML code evaluation research project, as well as organize and run a summer IOT/Robotics camp

Residential Computing Consultant   **August 2015 – May 2017**
UNC Information Technology Services   *Chapel Hill, NC*
- Troubleshot, resolved, and educated over 100 clients on how to resolve technology issues as an in-dorm advisor
- Actively sought out residents to touch base in order to guarantee complete satisfaction with residential technology services
- Monitored and maintained over 70 campus-wide printing and media stations and around 8,000 wireless access points with a staff of 49

Cybersecurity and Privacy Advisory Intern   **June 2016 – August 2016**
PricewaterhouseCoopers LLP   *Boston, MA*
- Organized demos, researched security tools, and compiled an onboarding template for the Internal Investigations team to organize and streamline the preexisting process
- Educated team on how to use, integrate, and contribute to the onboarding document in Excel and Word
- Worked with a team of 6 to integrate a security tool for internal access management for a US bank
- Presented and created working templates of the access request process and the different data storage methods for the client

Software Developer/Quality Assurance Intern   **June 2016 – August 2016**
Deutsche Bank Global Technology   *Cary, NC*
- Supported a team of 7 in Scrum Agile development and testing on DPG Applications (**GWT**)
- Resolved a major security-certificate issue affecting the DPG Apps and on-boarded the team to an automated renewal system
- Led info-sessions to instruct DPG team and off-site support teams on navigating and resolving certificate issues
- Presented this resolution strategy at the Mortgage and Loans domain meeting to over 25 coworkers and managers
- Collaborated with 5 fellow interns on an integrated recruitment tool to aid hiring managers in making hiring decisions

PROJECTS

Oasis (Hult Prize Regional Finalist and recipient of Vimy Global Team Award)   **November 2015 – August 2016**
University of North Carolina at Chapel Hill   *Chapel Hill, NC*
- Initiated project to tackle the goal of doubling the income of residents in crowded urban settings
- Recruited an initial team of 4 and organized weekly meetings to brainstorm and prune initial concept
- Pitched project idea and presented business plan to investors, international judges, and school administrators, resulting in $15,000 in funding to execute project in Santiago, Chile

- Developed Android app with the dev team to enable street vendors to record and visualize daily sales and receive insights on pricing trends
- Interviewed over 100 street vendors and collected daily feedback to modify and release a beta-version of the Android app
- Partnered with local street vendor organization, Sintraloc, utilizing their network as an entry-point to vendors and training location

VOLUNTEERING

Volunteer Assistant Basketball Coach
May 2019 – Present
Kam Tin Glocal Cultural Hub
Kam Tin, Hong Kong
- Leading and facilitating practices for the junior high, senior high, and girls' basketball teams based at the local community center
- Coached a diverse team of secondary school students from local Hong Kong, mainland Chinese, and Nepalese backgrounds

Resident Volunteer
August 2017 – September 2017
Evangelical Cultural Center
Qab Elias, Lebanon
- Drafted funding proposal for new construction project and participated in the first phase of development
- Taught English, computer literacy, and guitar to local Syrian refugee youth ages 9 to 16

Tutor and Monday Point-Person
August 2014 – May 2017
Helping Youth by Providing Enrichment (HYPE), UNC Campus Y
Chapel Hill, NC
- Assisted K-5 students with Math and Reading homework at the Dobbins (low-income housing community) after-school center
- Facilitated and guided groups of 8 students on weekly enrichment activities such as science projects and arts and crafts
- Organized and supervised the daily tutors, gathered their feedback on each volunteer session, acting as a liaison for the center

Awareness Chair, Co-President
August 2013 – May 2016
*Criminal Justice Awareness and Action (CJAA), UNC Campus **Y***
Chapel Hill, NC
- Expanded the committee's mission to go beyond direct service to become involved in campus awareness campaigns and policy engagement
- Advertised CJAA's work and mission to the student body and campus groups, resulting in over a 100% growth in committee size
- Led and facilitated weekly meetings and activity-planning for a committee of over 30 consistent members
- Designed and organized recreational and educational activities for weekly sessions at the Durham Youth Correctional Facility
- Partnered with campus groups and community leaders to coordinate and advertise awareness events, speaker series, workshops, and initiated the university's 'Criminal Justice Week' which welcomed over 100 attendees across various events and expanded the committee's size

Financial Coaching Fellow and Advocate
August 2013 – May 2016
Community Empowerment Fund
Chapel Hill, NC
- Assisted community members in seeking employment through job searches and resume and cover letter preparation
- Connected community members to local resources such as ESL classes and housing opportunities
- Sought out financial training to better aid community members with tax help and other financial inquiries

SKILLS

- **Languages**: Fluent speaking, reading, and writing in Mandarin and Cantonese; Basic speaking, reading, and writing in Arabic
- **Programming Languages**: Javascript, HTML/CSS, GraphQL, TypeScript, Dart, Java, Python, SQL, C++
- **Technologies:** React, NodeJS, Redux, Prisma, Apollo, NextJS, ExpressJS, StorybookJS, Flutter, Bloc, Kubernetes, MySQL, MongoDB, Jest, Enzyme, React-Testing-Library, Cypress, React Native, CLI, GCP