

# Moya P. Chen

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## Industry Experience

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### Facebook - Spatial AI: WorldXR

Jan. 2019 - Present

SOFTWARE ENGINEER

Seattle, Washington

- Designed, built, and tested framework for accelerating release of computer vision algorithms for mobile and VR devices
  - Integrated algorithms of both machine-learning (ex. body tracking) and classical (ex. feature point plane fitting) techniques
- Improved systems for client/server image-based relocalization with Facebook Reality Lab's LiveMaps system
- Saved 300KB (iOS) and 70 KB (Android) of Facebook app binary size by reducing footprint of computer vision components
- Built UX flow for collection of user generated data of computer vision algorithm generated geometry information
  - Lead team including 2 designers; took project to user study + improved initial proposals based on feedback

### Facebook - Computational Photography

Jan. 2017 - Dec 2018

SOFTWARE ENGINEER

Seattle, Washington

- Spearheaded direction for initial release of "Augmented Reality Birthdays" experience in Facebook app
- Lead project exploring at-home, multi-player, persistent use cases with relocalization based on SLAM maps
- Integration of puppeteering of static and live faces based on prerecorded video; Shipped public effect with 3rd party IP partner
- Investigated initial approaches for gaze correction in mobile video conferencing
- Built pipelines for keypoint based facial deformations

### Facebook - Business Integrity

June. 2015 - Dec 2016

SOFTWARE ENGINEER

Seattle, Washington

- Extended Haskell-based clustering systems for automated detection of malicious ads
- Built machine learning classifier to detect artificial boosting of 'like' signals
- Oncall for monitoring of abuse across Facebook Platform APIs

### Microsoft - Windows Phone CXE

Jun 2014 - Sep 2014

SOFTWARE ENGINEER INTERN

Redmond, Washington

- Designed, implemented, and tested BTLE Explorer, an application using the Bluetooth Low Energy API of Windows Phone. (Sample application published online as part of official Microsoft documentation.)
- Added power charge monitoring to internal Windows Phone status tracking tool.

## Education

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### California Institute of Technology

Sept 2011 - June 2015

B.S. IN COMPUTER SCIENCE *with Honors*

Pasadena, California

## Publications

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- [1] M. Chen, D. Xin, and D. Woods, "Parallel Computation Using Active Self-assembly" *DNA19: The 19th International Conference on DNA Computing and Molecular Programming*. Sept. 2013. Springer LNCS 8141, pages 16-30.
- Journal version: [2] M. Chen, D. Xin, and D. Woods, "Parallel Computation Using Active Self-assembly" *Natural Computing*, 14(2):225-250. 2015.

## Research Experience

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### Summer Undergraduate Research Fellowship

Jun 2012 - Jun 2014

RESEARCHER, DNA AND NATURAL COMPUTING LAB @ CALTECH

Pasadena, California

- Worked on project titled "Nubots: A Study of Motion in Computation" (see *Publications* and *Awards* sections)
- Also worked on projects related to the Collatz Conjecture and Two-Counter Machines

## Awards

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|------|--|----------|
| 2017 | <b>Zuck Demo</b> , SeaHack 11; project: hardware for persistent, multi-player augmented reality <ul style="list-style-type: none"><li>• Lead team of 3: came up with idea, did implementation, chosen for CEO demo</li></ul> | Facebook |
| 2013 | <b>Best Student Paper Award</b> , 19th Int'l Conf. on DNA Computing and Molecular Programming; for [1]   | ASU      |
| 2012 | <b>Semifinalist</b> , Perpall Speaking Competition; for "Nubots" project   | Caltech  |

## Service

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### Mentorship - Facebook

#### INTERN DIRECTOR

*Winter 2017, Summer 2018, 2019, 2020*

- Supported cohorts of 8-13 intern managers in skills for project scoping, mentorship, and calibration against Facebook expectations
- Conducted interventions for struggling interns; navigated communications with recruiting, team managers, and relevant peers
- Aided intern managers operating in unique situations (ex. software engineering interns in FAIR, underrepresented minorities)
- Cohort intern return offer rates consistently higher than that of intern director average

#### INTERN MANAGER

*Summer 2016, 2017, 2019*

- Guided interns through 12-16 week projects, providing background-appropriate scoping, skills growth, and mentorship
- Projects: "Android integration of multiplayer persistent relocalization", "multi-user facial deformations", "cluster and machine learning based malicious URL classification". Multiple return offers; all interns underrepresented minorities.

#### ASSORTED OTHER MENTORSHIP

*Various*

- Lean Intern Mentorship circle leader - Provided extra support for groups of 3-5 female interns through the intern process
- Provided mentorship to other individuals within software engineering.

### Interviewing - Facebook

#### DEBRIEF + LOOP APPROVAL - GREATER SEATTLE AREA

*Fall 2018 - Present*

- Reviewed packets (interview performance, resume, and referrals) of candidates; made decisions on sending to final candidate review
- Made bring-to-onsite, leveling, and architecture interview type decisions for post-technical screen candidates
- Provided guidance to interviewers on areas of improvement
- Educated recruiters on calibration of Facebook technical interview types

#### INTERVIEW TRAINING

*Fall 2018 - Present*

- Gave training class for career/experiences interview (1 of 3 individuals trained to do so in Seattle office)
- Reverse shadower: Observed in-training interviewers, gave feedback on conduct, and made suggestions for continued interviewing

#### INTERVIEWER

*Fall 2017 - Present*

- Conducted over 200 interviews: 100+ Career/Experiences (~10 with PhD focus), ~80 Technical Coding, ~20 Architectural/Design

## Skills

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<b>Programming</b>	Bash, C/C++, Hack, Haskell, Java, Perl, PHP, Python, x86 Assembly
<b>Operating Systems</b>	Linux (Ubuntu), MacOS, Windows
<b>Visual Design Software</b>	Inkscape, GIMP, Adobe Photoshop
<b>Mathematics Software</b>	Mathematica, Matlab, Latex (typesetting)

## Other

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- Runner of marathons, half-marathons, and other distances. **On track to hit goal of 1250 miles** for 2019.
- Holder of **PADI Advanced Open Water Scuba diving certificate**. Ask about trips to Cuba and the Cook Islands. :)
- Full member of the Caltech undergraduate dorm **Blacker Hovse**; house historian.
- **Competative puzzle solver**: 3x top-3 team finishes in Palintir Puzzlehunt; participant MIT Mystery Hunt + other puzzle hunts
- Player of the **piano, flute, ukulele, and guitar**.