PRAMOD KOTIPALLI

http://p13i.io/

p13i@stanford.edu · http://p13i.io/ · +1 (425) 200-5436 · p13i

SUMMARY

» Focused on creating *Symbiotic A.I.* experiences involving AI, user-centered design, graphics, & psychology.
» Experienced in full-stack development · Active HCI researcher with a keen eye for UX & graphic design.

EDUCATION

Stanford University *September 2019 - June 2021*
Masters of Science · Computer Science · 2021
Depths: Human-Computer Interaction + Artificial Intelligence
Coursework: Image Synthesis Techniques, Smart Products, Tech Venture Formation, Domain Specific Langs.

Georgia Institute of Technology *August 2015 - August 2019*
Bachelors of Science · Computer Science · 2019
GPA: 3.83/4.00 (Faculty Honors: 4.00 GPA in Spring 2016, Summer 2016, Spring 2017, & Spring 2018 terms)
Coursework: Machine Learning, Data Structures, Algorithms, Assembly & C, Object-Oriented Programming

SKILLS

PROGRAMMING LANGUAGES	Python, JavaScript, TypeScript, C#, Swift, Java, HTML5 / CSS3, Shell, C, C++, Arduino C++, MATLAB
DEVELOPMENT FRAMEWORKS	Django, Django REST Framework, iOS, Android, React Native, .NET, Angular, Ionic, NodeJS, Android, Retrofit, Google Glass Development Kit (GDK), Dagger (Android dependency injection), LLVM C++ API, networkx
PACKAGING & DEPLOYMENT	Vagrant, Docker, Heroku, Microsoft Azure, Digital Ocean, Gradle, NuGet, Google Play deployment, Apple App Store Connect Deployment, Apple TestFlight
VERSION CONTROL & CONTINUOUS INTEGRATION	Git (advanced), Self-hosted Jenkins pipelines, Travis CI, CircleCI, Wercker, GitHub Actions, Automated Testing Strategies (end-to-end, integration, unit, etc.)
DATABASES	Microsoft SQL Server (T-SQL), PostgreSQL, Redis, MySQL, Firebase Cloud Firestore, MongoDB
A.I. & MACHINE LEARNING	hmm-learn, Digital Signal Processing, MATLAB, scikit-learn
DEV. ENVIRONMENTS	PyCharm, Visual Studio, JetBrains ReSharper, IntelliJ IDEA, Android Studio, WebStorm, Visual Studio Code
GRAPHIC DESIGN, ANIMATION, & PHOTOGRAPHY	Sketch (macOS), Adobe (Illustrator, After Effects, Premiere Pro, Photoshop, Audition, InDesign, Lightroom, Bridge, XD), MAXON Cinema 4D, Octane Render, World Creator 2 (procedural landscape generation), Skylum Luminar 4, PBRT Renderer (https://pbrt.org/), Portraiture
HUMAN-COMPUTER INTERACTION & RESEARCH METHODS	UX Research, UI Design, Study Design (counter-balancing, dual-task, learning effects, etc.), Interview Design, Data Visualization, Statistics (as relevant to HCI studies & hypothesis testing), Literature Review
SOFTWARE ENGINEERING CONCEPTS	RESTful API Design, Containerization, Virtualization, Distributed System Design, Message Queues / Task Queues, Micro-Service Design, Dependency Injection / Inversion of Control, Programmatic Reflection

EXPERIENCE

Tangible Smart Clothing Inc. *Stanford, CA (remote)*
Head of Software *May 2020 - present*
» Leading software initiatives to build the “world’s first teleportation kit” through the use of immersive haptics
» Our hardware lets you to feel the presence of your loved ones at a distance · https://tangible.team/

SHAPE Lab @ Department of Mech. Engr. @ Stanford University *Stanford, CA*
Graduate Research Assistant (w/ Dr. Daniel Drew & Prof. Sean Follmer) *September 2019 - present*
» Investigating acoustic rendering via smart swarm robots to recreate remote environments

Department of Genetics @ School of Medicine @ Stanford University *Stanford, CA (remote)*
Research Software Engineer · Part-time *March 2020 - July 2020*
» *“PHD: A Scalable, Secure, and Interoperable Platform for Big Data-Driven Health Management”*
» Developed software for early detection of COVID-19 from wearable fitness trackers with 1,200+ users
» Implemented dependency injection (Dagger) for Android to enable instrumented integration tests
» Led dev of iOS & Android to streamline UX & data collection · https://innovations.stanford.edu/wearables

Space Exploration Technologies Corp. (SpaceX) *Hawethorne, CA*
Software Engineering Intern *September 2017 - December 2017*
» Designed, implemented, tested software solutions · Worked closely with PMs and UX designers
» Automated supply chain processes in ERP: mitigated legal risk, increased business efficiency
» Engineered SQL Server + .NET/C# backend that exposed RESTful APIs to AngularJS front-end
» Saved 1,500+ hr/yr of manual data entry · Led projects now used by all 7,000 employees

ATSDR @ U.S. Centers for Disease Control and Prevention (CDC) *Atlanta, GA*
Technical Consultant *August 2018 - May 2019*
» Researched user requirements, architected, and delivered automated air quality analysis pipeline
» Drastically reduced time for publishing reports on air quality, assisting CDC in its public health missions
» Architected and developed desktop application to automate processing data from air quality sensors
» Worked closely with five other teammates to develop in an Agile method and produce demo videos

EXPERIENCE

(continued)

School of Interactive Computing @ Georgia Institute of Technology *Atlanta, GA*

Project Lead & Undergrad Research Assistant (w/ Prof. Thad Starner) *January 2018 - August 2019*

- *"RF-Pick: Comparing Order Picking Using a HUD with Wearable RFID Verification to Traditional Pick Methods"* published to ***ACM International Symposium on Wearable Computers***
  - Developed and analyzed Augmented Reality applications for intelligent warehouse mgmt. systems
  - Led efforts in software dev, study design, conducting user studies, statistics, and paper writing
  - Oral presentation given to ACM ISWC in Singapore resulting in ***Best Paper Award***
- *"Augmented Reality Head Worn Display Positioning for Sparse Order-Picking" pending publication*
  - Study sought to determine the most efficient virtual display position in an environment that requires walking and reading of information for tasks like warehouse order fulfilment.
  - Study determined that the center-right position provides the best-performing binocular display position for HWD manufacturers and warehouse order pickers while minimizing the risk of the cognitive capture observed in other studies using the center-center position.
  - Led development of sophisicated combinatorial graph search algorithms to find optimal "pick paths" to collect items in warehouse-like settings (e.g. libraries).
- *"Notification Perception with Visual Distraction on Google Glass and Smartwatches (Dual-Task)"*
  - We investigate how are notifications are perceived differently when presented on wrist-mounted displays (e.g. smartwatches) and head-worn displays (e.g. Google Glass). We formulate and execute a dual-task study paradigm pairing notification stimuli with a visual search distraction task developed by prior literature.
  - Surveyed literature, designed study, prepared IRB, documented meticuously study procedures, developed software, and ran pilot subjects in first fully self-directed research study.

Undergraduate Research Assistant *January 2016 - December 2016*

- Developed predictive health analytics for heart disease patients with Professor James Rehg, Wall Lab
- Used MATLAB and Python to apply DSP & HMMs to on-body sensor data to model disease progression

Cisco Systems *San Jose, CA*

Software Engineering Intern *May 2017 - August 2017*

- Architected, researched, implemented test automation framework for Cisco's Cloud DVR services
- Developed load testing and analysis framework to generate HTTP traffic and collect relevant statistics
- Designed AngularJS front-end with Python RESTful API and ELK · Orchestrates Docker containers
- Saved 10+ hr/wk of manual and error-prone OS/network configuration · Increases engineer efficiency

School of Mechanical Engineering @ Georgia Institute of Technology *Atlanta, GA*

Lead Software Developer (w/ Dr. Amit Jariwala, Director of Innovation) *January 2016 - May 2018*

- Built service used by 2,500 students and judges in Georgia Tech's Capstone Design Expo.
- Integrated user feedback for highly-intuitive UX significantly reducing user onboarding.
- Collaborated through Git-centered workflows with a tight feedback loop from advisers.
- Technologies used: Django, PostgreSQL, Git, jQuery, responsive HTML/CSS design.

AWARDS

Best Paper *Singapore*

ACM International Symposium on Wearable Computers *October 2018*

- Awarded for research work published to ACM International Symposium on Wearable Computers
- Studied novel wearable RFID-based verification system for the central process of order picking in logistics

Grace Hopper Conference travel grant *Houston, TX*

Sponsor: Google *October 2016*

- 1 / 100 students awarded full scholarship to attend Grace Hopper Celebration of Women in Computing
- Developed skills based on demonstrated interest/experience in promoting the role of women in computing

Richard Tapia Diversity Conference *Remote*

Sponsor: Stanford Computer Science Department *October 2016*

- Selected to represent the Stanford CS department at the Celebration of Diversity in Computing Conf.
- Fully-funded conference attendance (virtually) with many opportunities to learn from new perspectives
- Gained many practical skills and insights for building more inclusive environments, recruiting, & retention

Winner (Active Tooling Category) & Best Use of Google Cloud *Univ. of Washington, Seattle, WA*

Hackathons: Dubhacks for Social Good & Hack'20 (respectively) *September 2020*

- Developed app to documents and analyze police encounters to help mitigate negative interactions
- Displays Constitutional and Miranda rights while inconspicuously analyzing voice sentiment and context
- Donated cash winnings ($200) to the NAACP Legal Defense Fund and Educational Fund

Grand Prize winner *Emory University, Atlanta, GA*

Hackathon: HackATL *November 2016*

- Awarded for developing and presenting comprehensive business plan to Atlanta-area venture capitalists
- Developed wearable tech for on-demand community help in emergency situations on college campuses

Microsoft Prize *Emory University, Atlanta, GA*

Hackaton: HackATL *November 2016*

- Won 2nd place in Microsoft Prize category at HackATL, a tech startup hackathon at Emory University.
- Created hardware prototype for smart watches wearers to shake hands and connect online.

Faculty Honors *Atlanta, GA*

Office of the Registrar @ Georgia Institute of Technology *2016-2018*

- Awarded to students who earn a 4.0 GPA in a full-time academic semester
- Received in multiple semesters including Spring 2016, Summer 2016, Spring 2017, and Spring 2018

PUBLICATIONS

RF-Pick: order picking using a HUD with wearable RFID verification
best paper @ ACM International Symposium on Wearable Computers *January 2018 - October 2018*
Order picking accounts for 55% of the annual $60 billion spent on warehouse operations in the United States. Reducing human-induced errors in the order fulfillment process can save warehouses and distributors significant costs. We investigate a RFID-based verification method wherein wearable RFID scanners, worn on the wrists, scan passive RFID tags mounted on an item's bin as the item is picked; this method is used in conjunction with a head-up display (HUD) to guide the user to the correct item. We compare this RFID verification method to pick-to-light with button verification, pick-to-paper with barcode verification, and pick-to-paper with no verification. We find that pick-to-HUD with RFID verification enables significantly faster picking, provides the lowest error rate, and provides the lowest task workload.

PATENTS

Wearable Haptic System for Immersive Social Telepresence (Co-Inventor)
USPTO Provisional Patent No. 63086349 (Assigned to Tangible) *October 2020*
(More information may be made available upon request.)

ACTIVITIES

<gt-webdev/> · Georgia Tech Web Development Club *January 2016 - December 2018*
***President**, Officer, Technical Speaker* *College of Computing @ GA Tech*
- Worked with several officers to routinely design (and re-design) web dev curriculum for beginner students
- Lead weekly club meetings for 100+ students in attendance & hosted one-on-one "office hours" Led impactful initiatives as senior office and President including:
  - Stronger & inclusive recruiting efforts,
  - Consistent and engaging communication, and
  - Project-based collaborative learning projects for students.
- Closely interfaced with College of Computing leadership to develop an inclusive learning environment

SERVICE

Volunteer Mentorship & Advising & Tutoring *September 2019 - present*
One-on-one volunteer work with students passionate about CS & engr. *Stanford, CA & remote*
- Currently advising/mentoring three students on a consistent basis & tutoring two Stanford CS undergrads
- Discussions cover topics in CS careers, academic research in AI + HCI, and professional development

PROJECTS

Professional UX + Graphic + Motion Design (Freelance + Personal Projects)
personal explorations in animation, graphic design, and UX research *December 2018 - present*
- Designed, animated, edited, and published over 40 short videos and 30+ high-quality static renders
- Demonstrates improving skills in animation, modeling, video production, sound mixing, and vector art
- Continuing to gain mastery of MAXON's Cinema 4D and Adobe's Creative Cloud products
- Portfolio continues to grow with new original work uploaded every week: https://instagram.com/p13i.io/

Remembrance Agent
Library to display contextually-relevant notes based on keyboard input *July 2019 - December 2019*
- Based on concept of a Remembrance Agent (RA) was first outlined by Rhodes and Starner in 1997
- Designed as system that automatically presents contextually-relevant notes, documents, and contacts
- Integrates with Google's Gmail, Drive, and Cloud Speech APIs through a Java Swing desktop GUI
- Logs keystrokes and ambient speech (through Google Cloud APIs) and searches offline cache

Glass Notes for Google Glass
Android, web, and terminal applications to augment memory in class *January 2019 - December 2019*
- Based on system designed by Thad Starner at MIT Media Lab in the late 1990s · redesigned for today
- Allows for offline note taking using Bluetooth keyboard · periodically syncs to GitHub Gists

dARts
play darts in augmented reality *May 2018*
- Designed interactive experience for collaborative darts game in augmented reality
- Used iOS frameworks like SceneKit to draw planes/objects into real-world with ARKit

MetroSync
a web app to help musicians rehearse together *May 2018*
- Designed/implemented web app featuring metronome synced across devices aiding in musical practice
- Developed real-time Web Socket-based app · Shared information between AngularJS front-end, REST API

RichCaptions
symbolic math captions for educational videos *September 2016*
- Designed/implemented UX for captioning and viewing videos with LaTeX-rendered math captions
- Developed AngularJS front-end leveraging YouTube API · Exposed Django REST API + PostgreSQL

channel.js
Simple Javascript front-end for Django Channels apps *May 2017*
- Researched & developed open-source JavaScript library to aid in development of Django real-time apps
- Followed best-practices and thorough documentation styles to aid with collaborative devs or users

PORTFOLIO

Online portfolio: http://portfolio.p13i.io/
PDF portfolio: http://pdf.portfolio.p13i.io/
Technical writing: http://writing.p13i.io/