

DIVYA BAJAJ

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Profile: <https://divyabajaj0025.github.io>

OBJECTIVE

A dedicated and skilled computer science professional with a strong foundation in programming language concepts, seeking to pursue a Ph.D. in Computer Science at University of California, San Diego. Bringing a rich blend of teaching experience, research expertise in generating explanations for functional programs, and a deep interest in leveraging natural language models for program synthesis.

EDUCATION

Oregon State University (OSU), Corvallis, USA (GPA 3.85/4.00)

Sept 2018 – Sept 2021 Master of Science (M.S.), Computer Science

Thesis: Customizable Visual Traces for Program Explanations

The NorthCap University (NCU, Formerly ITM), Haryana, India (CGPA 9.71/10.00)

July 2013 – June 2017 Bachelors in Technology (B.Tech.), Computer Science

PUBLICATIONS

- Adaptable Traces for Program Explanations
Divya Bajaj, Martin Erwig, Danila Fedorin, Kai Gay
Asian Symposium on Programming Languages and Systems (APLAS 2021).
- A Visual Notation for Succinct Program Traces
Divya Bajaj, Martin Erwig, Danila Fedorin, Kai Gay
 - *Journal of Computer Languages (COLA 2023)*
 - *Proceedings of IEEE Symposium on Visual Languages and Human-Centric Computing (VL/HCC 2021)*.

PROFESSIONAL EXPERIENCE

Department of Computer Science, University of Texas Rio Grande Valley

Sept 2022 – Present Lecturer I

- Instructed diverse programming language courses to CS and non-CS students.
- Mentored Senior projects for 3 teams of 3-4 students each

Department of Computer Science, South Texas College

Jan 2022 – July 2022 Lecturer

- Delivered various courses in C++, Python, and computer fundamentals.

Department of Computer Science, South Texas College

Nov 2021 – Dec 2021 Lab Technician

- Provided comprehensive programming support and guidance with multiple CS courses, improving student understanding.

Department of Computer Science, Oregon State University

Jan 2019 – Sept 2021 Research Assistant

- Developed new operational semantics to generate simpler proof Directed Acyclic Graphs (DAGs).
- Designed query language that transforms proof DAGs to generate program explanations that led to systematic reduction in size of traces for 21 well-known example programs by at least 80%.

Teaching Assistant

- CS527 Error-Correcting Codes
- CS381 Programming Language Fundamentals
- CS362 Software Engineering II

Abacus Desk IT Solutions Pvt. Ltd.

June 2016 – July 2016 Intern, Software Development

- Developed and implemented algorithm for seat-allocation for college exams using PHP.

BodyWorks – A Unit of Turnsteps

June 2015 – Aug 2015 Intern, Software Development

- Leveraged OpenCart framework to develop backend and integrate payment gateway for e-commerce website for fitness consultant.

OTHER PROJECTS

July 2016 – June 2018 Medicare Cards, Major Project for B.Tech. at NCU

- Developed android application to store medical history of individuals using Firebase. Also, designed API to access this information using Near Field Communication (NFC) cards.

July 2014 – Nov 2014 Developed login and update feature for a Student Information System.

CONFERENCE PAPER REVIEW EXPERIENCE

- *Proceedings of IEEE Symposium on Visual Languages and Human-Centric Computing 2021*
- *Symposium on Implementation and Application of Functional Languages 2020*
- *Proceedings of IEEE Symposium on Visual Languages and Human-Centric Computing 2020*

RELEVANT SKILLS

- Comprehensive knowledge and experience in **language design, domain-specific languages, type systems and operational semantics**.
- Extensive programming experience in C, C++, Haskell, Java, and Python.
- Proficiency in HTML, CSS, PHP, Idris, Bootstrap and Shell scripting, Visual Studio Code, Visual Studio, Linux and Unix environment.

SELECTED HONORS & AWARDS

- Jan 2019 – Sept 2021 Research and Teaching Assistantship (full tuition & stipend), **OSU**
- Dec 2017 Gold Medal for university-wide securing first position in B.Tech., **NCU**
- July 2013–June 2017 Scholarship for securing first position in B.Tech., **NCU**