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**DIVYA BAJAJ**

OBJECTIVE

A dedicated and skilled computer science professional with a strong foundation in programming language concepts, pursuing a Ph.D. in Computer Science. 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. My greatest strengths lie in problem-solving and analytical thinking. I approach a problem by systematically breaking it down to simpler tasks and devising a step-by-step solution.

EDUCATION

**University of Texas Rio Grande Valley (UTRGV), Texas, USA (GPA 4.00/4.00)**

August 2024 – Present Doctor of Philosophy (PhD), Computer Science

**Oregon State University (OSU), Oregon, 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**